VAASAN AMMATTIKORKEAKOULU
UNIVERSITY OF APPLIED SCIENCES

Christina Lillback

ORGANIZING A HACKATHON IN WÄRTSILÄ

Business Administration, International Business
2018

VAASAN AMMATTIKORKEAKOULU
International Business

TIIVISTELMÄ

Tekijä	Christina Lillback
Opinnäytetyön nimi	Organizing a hackathon in Wärtsilä
Vuosi	2018
Kieli	englanti
Sivumäärä	43 + 6 liitettä
Ohjaaja	Thomas Sabel

Tämä opinnäytetyö käyttää SAP Hackathon – A Piece of Cloud –hackathonia esimerkkinä hackathonien järjestämisessä Wärtsilässä. Yritys järjesti SAP Hackathonin syyskuussa 2017. Opinnäytetyössä kuvataan hackathoniin johtaneiden tapahtumien kulku, sen aikana ja sitä seuranneet tapahtumat, sekä evaluoidaan tapahtuman onnistuneisuutta palaute-kyselyn perusteella. Opinnäytetyössä käydään läpi myös asiaan liittyvää teoriaa ja tutkitaan miten se kohtaa case hackathonin kanssa. Lopputyön tulokset on koottu Hackathon käsikirjaksi, jota voidaan käyttää kun tulevaisuudessa järjestetään hackathoneja Wärtsilässä.

Avainsanat hackathon, tapahtuman järjestäminen, Wärtsilä

VAASAN AMMATTIKORKEAKOULU
UNIVERSITY OF APPLIED SCIENCES
International Business

ABSTRACT

Author	Christina Lillback
Title	Organizing a hackathon in Wärtsilä
Year	2018
Language	English
Pages	43 + 6 Appendices
Name of Supervisor	Thomas Sabel

This thesis is using SAP Hackathon – A Piece of Cloud as an example on how to organize a hackathon in Wärtsilä. SAP Hackathon was organized by Wärtsilä in September 2017. In the thesis the actions taken before, during and after the event are described and evaluated based on the feedback survey. Related theory is also presented and it is compared with the case hackathon. The findings are combined to a Hackathon handbook that can be used in the future when organizing hackathons in Wärtsilä.

Keywords hackahton, event organizing, Wärtsilä

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1 INTRODUCTION

1.1 Purpose of the thesis

The topic ‘Organizing a hackathon in Wärtsilä’ was chosen because Wärtsilä is moving forward on the journey of digital transformation and interest in organizing hackathons is increasing within the organization. So far, Wärtsilä Information Management (IM) department has held three hackathons and a fourth one is being discussed. For now, there is not much information available on how to organize a hackathon and what it is all about, thus the need for this thesis.

The thesis is studying the process of organizing a hackathon; what is required before, during and after the event. As reference is used the hackathon event SAP Hackathon – A Piece of Cloud that hosted some seventy people and was held on 12.-14.9.2017 in Wärtsilä headquarters in Helsinki.

This thesis was done for Wärtsilä Corporation and Tero Aliranta was supervising the process. The findings were combined to a Hackathon handbook (Appendix 6) that can be used as guidance when organizing hackathons in Wärtsilä in the future.

1.1 Topic perspective

Hackathons can be viewed from several perspectives. Hackathons can be examined as a phenomenon, or as an event like process. They can be studied from the cultural change point of view, or they can be viewed merely as a way of working.

This thesis has the focus on the process of organizing a hackathon as an event. As for any other event, a hackathon has many different people involved in it and thus it can be viewed from many different angels. This thesis is concentrating on the organizers’ point of view, since the handbook is also targeting the future hackathon organizers.

1.2 Methodology

Information for the thesis has been gathered through an online feedback survey that was sent to the participants after the hackathon. Additionally, an open interview

with the project manager was conducted in Vaasa on 31st of November 2017. Informal discussions have also been taking place with different members of the organizing team and event participants to get as many insights as possible. Additionally, the thesis is supported by author's personal experience as a member of the organizing team in the hackathon used as reference.

1.2 Aim of the research

The aim of the research is to find out what are the best practices when organizing a hackathon in Wärtsilä. This is done by going through the process of organizing SAP Hackathon – A Piece of Cloud and then referring to the questionnaire results and organizer's comments to evaluate the success in different areas. The goal is to create a comprehensive guide that will help Wärtsilä's future hackathons to be as successful as possible.

1.3 Limitations

The author has personally not been participating in hackathons or organizing them previously, so the hackathon experience comes solely from the SAP Hackathon. Additionally, the case hackathon was arranged in Wärtsilä and so resourcing, conditions and policies applied for the hackathon might be different from a hackathon arranged elsewhere.

The research problem of the thesis "How to organize a hackathon in Wärtsilä" focuses on the actual arrangements for the hackathon and thus topics like cyber security and personal data related regulations are not taken to the scope, even though they are both relevant topics for the subject of the thesis. Also, since this is a thesis with an end product of which the target audience are the Wärtsilä employees, it is assumed the audience is familiar with the above mentioned aspects.

2 BACKGROUND

2.1 Wärtsilä

"Wärtsilä is a global leader in smart technologies and complete lifecycle solutions for the marine and energy markets" (Wärtsilä: About). Wärtsilä's business areas include Marine Solutions, Energy Solutions and Services and the company values are Energy, Excellence and Excitement (Wärtsilä: The Wärtsilä Brand). The company's CEO is Jaakko Eskola and he has been in the position since 1.11.2015. (Wärtsilä: News, 2015).

Wärtsilä has around 18 000 employees in over 80 countries (Wärtsilä Corporation Annual Report 2017), and was stock listed (WRT1V) in OMX Helsinki on 17.01.1991 (Kauppalehti Wärtsilä Oyj Abp (WRT)). In the end of the financial year 2017 "The largest shareholder was Investor AB with 34,866,544 shares or 17.7% of the share capital." (Wärtsilä Corporation Annual Report 2017, 146). The 2017 net sales amounted to 4 923 million, which is an increase of 3% to the year before (Wärtsilä Corporation Annual Report 2017).

Wärtsilä has a vast product portfolio and is able to deliver "world's most complete offering of marine solutions" (Wärtsilä Solutions for Marine and Oil & Gas Markets 2018, 5). Now Wärtsilä is on a journey of Digital transformation and is bringing the digital aspect to the solutions in all three sectors. "Wärtsilä's digital transformation will provide increased customer value through a new era of collaboration and knowledge sharing." (Wärtsilä Annual Report 2017, 6) "As part of the on-going digital transformation, a so-called Agile way of working is being adopted in the Digital organisation, which allows Wärtsilä to test new ideas and business models quickly in order to promptly adapt to changing market needs. This approach is used for conceptualisation to avoid the risk of losing business opportunities, while products continue to go through the established GATE development. Thereby, the two models complement each other and are used in different context within the organisation." (Wärtsilä Annual Report 2017, 40). "The acquisition of Guidance Marine represents another important step in Wärtsilä's Digital transformation" (Wärtsilä Annual Report 2017, 157-158).

Hackathons have an important role in supporting Wärtsilä's digital transformation as said by the company's CIO and Vice President Jukka Kumpulainen in a video interview for SAP Hackathon Piece of Cloud Teaser in 2017: "For IM organization those (hackathons) are in an important role really as a part of our digital journey and transformation. How we can actually change the development in whole IM organization towards more agile and fast development and make fast changes to our core systems. Co-creation is really the key word in the development. How we can actually bring people from different parts from the organization together to solve a business problem in a fast way. It has been amazing to see that how fast in previous hackathons the cross-organizational teams have been able to create totally new kind of functionalities and solve business problems in such a short time. Working just together and creating the solutions together".

3 THEORETICAL BACKGROUND

In this chapter some theory related to the topic is presented and then it is compared to what actually happened with the case hackathon First the meaning of hackathons is explained, then topics relating to teamwork and event organizing are presented and finally there is theory regarding project management. In the chapter after the theory the whole process of the case hackathon is explained in more detail, so the relation of the SAP Hackathon to the theory is gone through only briefly in the theory chapter.

3.1 Hackathons

'Hackathon' is a combination of the words 'hack' and 'marathon'. The words *hack* and *hacking* are explained as follows: "Gain unauthorized access to data in a system or computer" (English Oxford Living Dictionaries). Initially this is where the words came from, and thus the words have a quite negative association to them. Hacking, however, is also a good way to test the security of a certain system. If it is easy to hack, the system is not enough secure. Security breaches are becoming more common lately and there is several news about this. (Armerding 2018; Morgan 2018).

Given the meaning of the words hack and hacking, it is not surprising that originally hackathons were associated with computer programmers and software projects. "A hackathon is an event in which computer programmers and others involved in software development collaborate intensively over a short period of time on software projects." (Briscoe & Mulligan 2018) Lately the number of hackathon has been increasing and it is not unusual to see the word "hackathon" associated with other context than Information Technology (IT). "These hackathons are encouraging of experimentation and creativity, and can be challenge orientated. From holding large numbers of these events, the hackathon phenomenon has emerged as an effective approach to encouraging innovation with digital technologies in a large range of different spaces (music, open data, fashion, academia, and more)" (Briscoe & Mulligan 2018).

When conducting the interview in Vaasa 31.10.2018 with SAP Hackathon project manager Amanda Goman, she stated the following: “Work and effort goes to old tasks and hackathon was a way to bring the new environment out to all at once.”. This is one of the reasons why hackathons can be a rather attractive way of working, as it gives an opportunity for people to focus intensively on a chosen topic and this again will give results much faster than it is possible during normal working days. Additionally, it is a good way to test the capabilities of e.g. a new platform that is being introduced to a company, which is one of the reasons Wärtsilä IM department decided to host SAP Hackathon – A Piece of Cloud.

3.2 Teamwork

Teamwork is important for hackathons, since they are run on collaboration basis. The team itself is a big factor in the success of the teamwork and thus it is important it is formed in an optimal way. In the chapter below there is a direct quotation from Team building : proven strategies for improving team performance that the author thinks is relevant for successful team formation.

“High-performing teams effectively manage team composition by (1) establishing processes to select individuals for the team who are both skilled and motivated, (2) establishing processes that develop the technical and interpersonal skills of team members as well as their commitment to achieving team goals, (3) cutting loose individuals who lack skills or motivation, (4) managing the team according to the skills and motivation of team members, and (5) ensuring that the team is the right size, that is, neither too large nor too small to accomplish the task.” (Dyer, W. G. & Dyer, J. H. 2013).

When comparing the five points from the above chapter with the actions that were taken for the SAP Hackathon it can be noted that there are some similarities, which would suggest that the teams were formed in a fine way. In the below chapter the topics of each step is gone through in the order they were explained.

The process of selecting individuals was managed by the SAP Hackathon organizing team and an application survey (Appendix 2) was created for this purpose. The survey had a field for the applicant to evaluate their skills with the system (SAP) behind the platform (SAP Cloud Platform, SCP), and to express their motivation towards the hackathon, so it could be said that the process for selecting the participants was according to point one. To develop the skills of the members in the crucial areas (SCP, Wärtsilä development guidelines), trainings were arranged for the participants before the hackathon by both SAP consultants and Wärtsilä internal people. During the event there were consultants from SAP on-site to help the teams with their work. Participants' commitment was expected to already be there, since they applied to the hackathon, but to boost this an incentive of winning the first price was applied. The hackathon itself was short, but even during that time there was a member of a team that was discharged from the position due to absences, or lack of motivation, if you will. In 'managing the team according to the skills and motivation' there would have been some room for improvement, since not all topics were a perfect match for the individual interests of the participants. This came up in the informal discussions with event participants and in the feedback survey results. This could be solved next time by e.g. adding a question in the application form to identify the topics the applicant would want to work with, in case topics are preselected like in SAP Hackathon. As for the team size, it seemed to be working without any issues and no comments were made regarding it. It was also the same concept as in the hackathon the year before, and it was working there as well, so one could say the team size of around eight team members is sufficient.

Gina Abudi wrote the article The Five Stages of Team Development – Every Team Goes Through Them! (Part I) and the below list are indicators for efficient teamwork, which are listed in the article.

- "Regular brainstorming sessions with all members participating
- Consensus among team members
- Problem solving done by the group
- Commitment to the project and the other team members

- Regular team meetings that are effective and inclusive
- Timely hand off from team members to others to ensure the project keeps moving in the right direction
- Positive, supportive working relationships among all team members" (Abudi G. 2009)

When taking the above indicators to the concept of the case hackathon the author would like to claim that they all are relevant. "A hackathon is an event in which computer programmers and others involved in software development collaborate intensively over a short period of time on software projects" (Briscoe G. & Mulligan C. 2014). It is of course challenging to measure the indicators, but since the whole concept of hackathons is to bring the people together and work intensively together on a problem or challenge and that the people are there by their own choice, it is hard to argue against the stated.

3.3 Event organizing

Events have been defined as follows: "An event is simply something that happens. That's the common sense meaning, the one in the dictionary…Events come in all sizes. Some are small events, like getting a text message on cell phone, and others are very big events, like World War II." (Luckham D.C. 2011, 3). With that being said, it can be stated that a hackathon is also an event. It is bigger than a text message and smaller than a war, but still has an impact. Given the scale that the case hackathon had, around seventy people were involved, it had a considerably large impact on the mentioned crowd especially during the event days. The hackathon had visibility also to the people working in the facilities (Wärtsilä headquarters) since the cafeteria was used as a place to promote the event.

One thing to consider when planning an event is timing. "Timing Event timing, down to the hour, is critical to success and needs extremely careful consideration. Target audience, event activities, venue availability and event organizers' preferences help define suitable dates … An event should avoid clashing with

competitor/major events …The final date must include enough lead-time to allow the proper event organization and marketing." (Yeoman I., Robertson M., Ali-Knight J., Drummond S. & McMahon-Beattie, 2009, 21). Timing was taken into consideration by moving the case hackathon from June, when it was initially planned, to August to avoid it from clashing with the summer holidays and thus the possible absence of many of the resources. The timing chosen was also suitable for the venue and the duration agreed was based on the experience with a hackathon previously organized by Wärtsilä IM.

3.4 Project management

The case hackathon was organized with some similarities to a project. Below is the definition of phases of a typical project life cycle as presented in the book Naked Project Management : The Bare Facts.

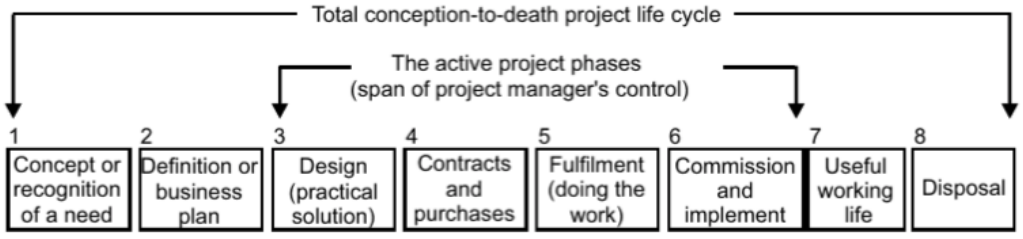


Figure 1. Phases of a typical project life cycle (Lock 2013, 3)

For the case hackathon, it could be said it followed a similar life cycle. First there was a recognition for a need for the event; a new platform was being introduced and there was a desire to test its capabilities and make the new platform known. Then a business plan was created and the event was designed. Of course the third step in another project could mean finding the end solution or fix for the initial problem, but for the hackathon it is important to note that even though the end goal is to find the solutions, the whole concept of having a hackathon is to have many different people involved in finding the solution and not only the project team, and thus when organizing the hackathon, the "project's end product" is the event itself and so in state three 'Design' the event is designed. After the event is designed and it is time for everything needed to be purchased and agreements with the relevant

vendors to be made. This would then also include the communication and marketing of the event and then the collection of the participants and any other needed resources for the event. After that, it is time for the project team to take other needed actions, which would include e.g. preparing the venue, and finally it is time to implement the work, thus have the event.

The seventh stage is not as self-explanatory as the other ones. It is opened as follows: “The project manager usually has no direct involvement in this phase, and should by now have moved on to another project or other things. However the project manager might be asked to sort out queries and snags during the first few months as defects and problems become apparent when the project is first put to use” (Lock, D. 2013, 5). This is also very true with the case hackathon. The actions taken for the hackathon were quite few after the feedback calls with the teams had been made after the event. Some half a year went by and occasional queries came for the coordinators for updates regarding the progress of the solutions that had started from the hackathon. The last status ‘Disposal’ has not really taken place yet, since some of the topics are still continuing. However, the hackathon organizing team has barely been involved in the solutions generated from the hackathon and the team members of the organizing team have continued to work with other tasks.

4 SAP HACKATHON – A PIECE OF CLOUD

Wärtsilä IM department organized two hackathons in 2016. When SAP Cloud Platform (SCP) was being introduced to the Enterprise Resource Planning (ERP) landscape, it was decided to organize a new hackathon. SAP Hackathon – A Piece of Cloud was held 12-14.9.2017 in the Wärtsilä headquarters in Helsinki. The event hosted around seventy people and lasted for two and a half days.

4.1 Timeline

The process for organizing the hackathon is described in more detail in the below sections, but to give a better holistic view of the time spent on different actions, please see the table below. When summing up the time spent, it equals roughly half a year. This was time reserved for the 2016 hackathon and it was the timeline initially planned for the SAP Hackathon.

The weeks indicate the work weeks spend working with the action and thus one week here equals five days. The tasks below can occur also in parallel to each other, but it should also be noted that these tasks also depend on the third party's normal working schedule and actions and that some tasks involved several people.

Table 3. Duration of the preparations.

Action	**Duration**
Preparing and presenting project plan	3 weeks
Making and publishing topic survey	3 weeks
Topic modification and selection	6 weeks
Vendor search and selection	4 weeks
Practical arrangements	3 weeks
Kick-off meetings	4 weeks
Hackathon event	2,5 days
Total	**23 weeks for preparation+ event days**

4.2 Preparations

The preparations started already in January since the hackathon was originally supposed to be in June. However, the hackathon was later postponed to September, since it was more suitable for the timetable and the participants, given that the summer holidays in Finland are often in June and July. In the next paragraphs the process of organizing the SAP Hackathon is described chronologically.

4.2.1 First quarter preparations

In January a project plan was made for organizing a hackathon by the project owner and it was presented and submitted for a budget approval in an IM Management Team meeting. The project plan presented the planned timeline, objectives of the event, expected benefits, proposed budget, approach (including target group and topic selection) and practical information on participants, organization, setup, venue and prizes. In February the project funding was approved and it was confirmed that there would be an internal sponsor for the hackathon. After this the project manager from the organizing team started to identify Wärtsilä's preferred and approved vendors that could be taking part in the hackathon. It can be noted that the project manager also worked as a coordinator for the event. Initial communications regarding the event content and possible interest in participating in the event were sent to the vendors by Information and Communications Technology (ICT) purchasing. This was also a good opportunity for ICT purchasing to test the new vendors. All companies that were reached out to wanted to take part in the hackathon.

In March the discussions with the vendors continued through a vendor manager from ICT Procurement and the contracts were drafted. Simultaneously the bi-weekly status meetings were started with the core organizing team that then consisted of seven persons: the project owner, three project leadership members, the project manager, communications coordinator, facilitator and a person who joined to give her opinion as a solution architect. The bi-weekly status meetings were started to keep the team engaged and to up-to-date regarding the hackathon related activities.

4.2.2 Second quarter preparations

In the April IM Info Session, which is a general info session that is organized every month to keep the IM employees up to date with the current topics, it was announced that a hackathon would be held and that the employees would have a chance to participate in the event and topic selection process. The initial schedule for collecting the hackathon topics with the following phases: idea collection, selection and implementation, was introduced. This was an important event, since the ideas to be sent would be the topics the hackathon participants would then tackle. Initial design for the event was also created for the first communications.

After the meeting a topic survey (Appendix 1) was opened for the next two weeks to identify the business needs that could utilize SCP as the solution. A total of twelve topics were suggested and some had different variations within them. After going through the results the organizing team was contacting the respective organizations and discussed their suggestions. The alternatives were evaluated and modified to be suitable topics for SCP. A total of six topics were chosen and one was marked as back-up topic. Another issue to tackle was that when many suggestions came from the same organization, it had to be decided which topics should be proceeded with, since they would be needing the same resources. The topic discussions were ongoing for a month.

In May the conference rooms that would be used as the facilities for the hackathon were booked and communication regarding the upcoming event was sent to Wärtsilä's security vendor, to ensure everyone would have enough time to prepare on their part for the event. Also, at this time the author joined the organizing team as an additional project coordinator.

In June an application survey (Appendix 2) for hackathon participation applications, for business representatives, was made and opened. The survey had questions regarding personal data, SAP experience, attitude towards the hackathon and an open field for free text, where the applicant could explain why they should be chosen.

The survey got a total of 31 responses. The applications were handled anonymously and the participants were selected according the application. In the end a total of eight participants were chosen. After the applicants were identified, they were coupled with the chosen topics as the organizing team saw most suitable.

For the sake of success for the hackathon, it was crucial to have the in-house knowledge regarding the SAP processes and technical functionalities within Wärtsilä to be able to develop feasible solutions, so a new application opportunity was given specifically for IM internal people that would join as SAP experts in the hackathon. A total of 14 people were selected. The decisions were emailed to each applicant separately and the practical arrangements were communicated to the selected ones.

At this time six vendors were also selected and each vendor informed the names of three participants from their side. The coordinators started applying all the needed access rights for the systems for all participants. This was done by applying the needed products from the internal IM catalogue. Hotels and travels were also booked for the vendor participants, since it was agreed to be included in the hackathon budget. The vendors' participants were also coupled with the topics, after which the search for a business owner for each topic started. Some topics had a business owner since the topic suggestion, but for some they had to be decided on separately. The final team composition was made of three external developers, around two IM process experts and three business representatives. At this time stories describing the business problem were created for the topics to guide the respective team's work during the hackathon days.

4.2.3 Third quarter preparations

July was the real kick-off month for practical preparations. New drafts for the official event logo and visual look were made and the organizing team started to have weekly status meetings. The name SAP Hackathon – A Piece of Cloud was also finalized. Additionally, meetings with SAP were held to discuss their inputs for the hackathon and to clarify the technical readiness of SCP. SAP would sponsor

the event with trainings on SCP prior to the hackathon and by offering support during the event days, as well as by providing some decorations and marketing materials for the event days. Also an inquiry for the possible judges was made to ask if they could join. A training on how to develop within the Wärtsilä landscape was also provided to the developers, to ensure they were aware of the expectations from Wärtsilä's side.

The coordinators worked closely together and identified the event's practical needs as well as made first versions of the timetable for the event days. Topics such as prizes, food and drinks for event days, welcoming packages, decorations, audio equipment needs, marketing and event responsibilities were discussed and planned in detail. Wärtsilä's security vendor was contacted for security pamphlets that were to be included in the welcoming packages. Also a draft for the communications plan was made and sent to the communications department for finalizing. The communications plan was a good list for reminding the team to make the communications. Additionally, all pending actions were listed up for a checklist for the coordinators.

In August the coordinators sent the visual drafts to a vendor for a final event logo. Later a banner and t-shirts for the event attendees were ordered with the event logo printed on them, through Wärtsilä's indirect purchasing tool. This was done to brand the event and create a sense of unity between the participants. For SAP Hackathon this was also important since the venue used was the Wärtsilä headquarters and so branding the event with tangible materials was also a way to market it internally. It was also decided a video would be done of the hackathon and it would be used by SAP for marketing purposes and for Wärtsilä to get more visibility. The video would be filmed by a vendor and it would include an interview with a director from IM. A consent form for the video was also created, to ensure that all people who would be visible in it, had accepted to be filmed.

The coordinators also sent orders to the catering vendor. It was important to have the questions regarding allergies already in earlier communications to the event participants, since this information was needed at least two weeks before the event,

for the catering vendor to be able to procure of the needed ingredients. The audio equipment and mixers were also ordered for the event opening and closing. The coordinators also purchased some decorations to create a lighter mood for the event days.

In mid-August the organizing team started to have daily status calls, since practical updates would now come more frequently. The coordinators had also kick-off meetings with each of the hackathon teams, where the topic and event practicalities were gone through. The coordinators also checked that all participants had the accesses applied for and communicated further to solve possible issues. The technical support team consisting of three members was also engaged more with the hackathon at this time. In September individual prizes for the event were decided on and ordered and the final technical issues were being tackled. The trainings on SCP provided by SAP were also provided in the end of August. The training was targeted only to the Wärtsilä's internal participants, because since the start it was expected that the vendors would provide the event with developers capable of working with SCP.

In the internal communication channel, a group was created for the hackathon and the first post was to showcase the selected topics and teams. The audience consisted of the participants as well as of anyone interested in the event. The group was used for keeping the communications materials in one place, as well as for marketing e.g. the visitors' hour, the final pitching and its broadcasting. Many of the communications for the hackathon were made during meetings or via email, so the group was a good place to put it all together. The only downside was that it is not accessible for externals, but this did not seem to be a bigger problem, since like for all of the participants in case of any questions they could contact the coordinators.

In September a video interview with the project owner and the company CIO and Vice President was made where they were discussing SCP and the hackathon to come.

The organizing team and technical support had a meeting the day before the hackathon would start to go through everyone's tasks and responsibilities during

the event days and for this a detailed time table was made. Some technicalities were still pending and the technical team was trying to resolve these. The teams also prepared the welcoming packages, which finally included the t-shirt, security information, candies, promotional merchandise and an info pamphlet with practical information regarding the event.

Also a voting form was made for the judges to use (Appendix 3). It was a simple form with all of the teams the judgement criteria listed as well as some lines for free text. The form was available both in printed paper and in electronic form, so the judges could choose which ever option felt more comfortable.

4.3 The event days

In the following sections the actions that occurred 12.-14.9.2017, during each of the event days, are described. The event schedule for the participants was as below. This was provided to the participants weeks before the hackathon occurred. The base for the timetable was taken from one of the hackathons that was held the year before in the Wärtsilä IM and that used a similar approach.

Table 4. Hackathon timetable.

<table>
<tr><td>Time</td><td>Day 1, 12.9.2017</td><td>Day 2, 13.9.2917</td><td>Day 3, 14.9.2017</td></tr>
<tr><td>8:00-9:00</td><td rowspan="3"></td><td rowspan="3">Hacking</td><td rowspan="3">Hacking</td></tr>
<tr><td>9:00-10:00</td></tr>
<tr><td>10:00-11:00</td></tr>
<tr><td>11:00-12:00</td><td></td><td rowspan="2">Lunch</td><td rowspan="2">Lunch</td></tr>
<tr><td>12:00-13:00</td><td>Registration</td></tr>
<tr><td>13:00-14:00</td><td>Event welcoming</td><td>Visitor hour</td><td rowspan="2">Final pitching</td></tr>
<tr><td>14:00-15:00</td><td rowspan="3">Hacking</td><td rowspan="3">Hacking</td></tr>
<tr><td>15:00-16:00</td><td rowspan="3"></td></tr>
<tr><td>16:00-17:00</td></tr>
<tr><td>17:00 →</td><td>Sauna and dinner</td><td>Sauna and dinner</td></tr>
</table>

4.3.1 First event day

The first day of the hackathon was filled with action. The organizers came to the facilities early to make last preparations including printing the case materials, decorating the rooms and setting small snacks for the participants. The technical

team was fixing some open topics, but there were no fatal shortcomings at this time. The video crew came in around eleven in the morning and they shot some material and conducted the planned interview. The hackathon participants started coming in around midday. In the registration the participants would get their welcoming packages and give their consent for the video, if they so wanted. Some internal employees had come to the office already earlier, but they were reached out by the organizing team to give also them their welcoming packages.

After the registration the participants and organizing team went for lunch when the time was suitable for them. After this there was some time for the participants to familiarize with their respective facilities and meet their team, while the organizing crew was preparing for the event opening. Given the headquarter was used for the event facilities, each of the teams had one conference room to use, so they had the usual setup available with flap boards and projectors. Placing each of the teams in different rooms may not be the most conventional way of organizing a hackathon, but for SAP Hackathon it was a suitable option since the teams work in different ways and for the sake of the competition it is good they were able to have space of their own.

For the opening the audio vendor's services were utilized and for this the representatives had to be greeted and let in for their preparations. The project owner and project manager would take care of the opening and they were going through the speech they had prepared. Other organizers were checking through any open action points and entertaining the visitors.

In the event opening the topics, teams and judgement criteria were reviewed. For SAP Hackathon the judgement would be based on six variables: Innovativeness and transformational impact, Customer focus, Sales and EBIT growth potential, Implementation feasibility and scalability, Secure quality and security, and Gut feeling. The hackathon's five judges were also confirmed at this time. The judges included members from top management, general managers and other higher ups.

In the welcoming, the pitching order for the final pitching was also drawn by Fortuna. This was done to make it as equal as possible for all teams. Participants were also given hashtags to use in communication and they were reminded of the

Non-Disclosure Agreement so that the content would not be published externally outside of Wärtsilä's communication channels. The teams were informed also about a common launch area, which would be the place for the evening sauna, dinner and socializing, but also for the day for any assistance or help they might need.

After the welcoming the teams were let go to their facilities and the 'hacking' was started. The teams worked independently, but the facilitator came to check up with them, in case they needed assistance with the team spirit. A SAP consultant was also located nearby and he paid a visit for each of the teams to assist with the use of SCP. Coordinators also visited teams to provide them with refreshments and remind of the common launch area. The 'hacking' started rather well, but some participants had problems with system accesses. Fortunately, this was fixed by the on-site support as soon as the problem was realized.

Around five in the evening the teams came to the common lounge area for dinner. Some teams stayed longer and some just took the food back to their own facilities. Sauna was also warmed up and the evening was a mixture of socializing and 'hacking'.

4.3.2 Second event day

The second day started with a small hiccup since the team's notes had been wiped away by the cleaning staff, but luckily the teams remembered what they had been discussing the day before. Other than the start of the day, the second day went quite much in the same way as the first day went after the event opening. The only difference for the participants was that this day there was a visitor's hour organized, meaning the employees of Wärtsilä could come and see how the teams were working to get a better view on the hackathon. The communication coordinator also visited the teams and made short presentations of them to the internal communications channel. The teams were visited also by a Design thinking consultant by SAP to guide the teams work.

During the day the technical team was preparing for the live video stream that would be podcasted from the final pitching. An initial plan and checkup had been done already a month back, but this time the preparation was for the actual streaming.

4.3.3 Final event day

The third day started as the previous one, but during the morning each of the teams were invited for a technical check-up with the audio personnel in order to be prepared for the final pitching. Each team had fifteen minutes reserved for this and during that time the team would test the audio equipment and present their materials with the presentation tools available. Pamphlets marketing the final pitching were distributed in the headquarters and information on the audience favorite voting possibility was provided in the final pitching area as well as online through the internal communications channel. The voting was made available through an online form (Appendix 4) that listed the teams and all the voter needed to do was to fill in their name and choose their favorite team. The voting results would be used as reference by the judges when making their final decision.

After lunch, people started gathering to the final pitching area. The project owner and project manager were hosting the event and started with presenting the teams, the judges and the judgement criteria, as well as reminding of the voting possibility. The pitching order was drawn by fortune and each of the teams would have five minutes for their pitches. No questions would be asked afterwards, so the pitches had to be made in such a way the judges would be able to follow the presentation and rate the solution accordingly. Also, the teams would have to choose one to two persons to represent the team, due to a limited number of microphones.

The broadcasting was started, the voting was opened and then it was time for the final pitches. All the presentation materials used in the pitches were shared in the internal communications channel for those following the event online.

The pitches were timed with a big countdown clock that was displayed on a monitor beside the team so they could time their presentations. After each of the pitches

there was a few minutes for the next team to prepare and after all presentations were over, the judges went to discuss their observations in a separate room. The pitches went OK in general but the most noticeable problems were that one team run out of time and had to be stopped, and another team faced technical issues with video audio. The audio was tried to fix a few times but in the end the team just explained the content as the video played on the background.

After the discussions the judges returned and presented their thoughts and feedback for each of the teams and revealed the winning team. The winning team was rewarded with a start-up sum for the implementation of the solution as well as personal gifts. All of the teams were applauded and then it was time to wrap up the event and start packing.

4.4 After the hackathon

After the hackathon follow-up meetings were held with each of the teams to track their progress and possible actions taken for the solution implementation. The coordinators also collected feedback from the vendor participants' performance, which would be forwarded to the purchasing department for reference. Also a feedback survey (Appendix 5) was made open with an incentive of a lottery that would be made between all the respondents. The survey was sent to all the 55 participants and it got a total 42 responses, which amounts to a response rate of 76.4%. The internal communications channel was updated with pictures taken in the event and to market any articles or news written about the SAP hackathon. The video filmed in the hackathon as well as the recording of the final pitching were also published there.

After September the communications and actions made by the organizing team became fewer. Checkups to follow the teams' progress were done occasionally and reported via the group in the internal communication channel to keep the interested ones updated. The group has been updated roughly once a month with different SAP Hackathon related topics. Half a year after the hackathon two topics were being worked on, one was going to be taken as a part of the value steam mappings,

one was merged to a bigger project, one was looking for an owner and one was on hold. For comparison, there was news in the internal communications channel that one of the 2016 hackathon topics has been recently implemented, which is some one and a half years after the hackathon.

5 FEEDBACK SURVEY RESULTS

The feedback survey had a response rate of 76.4% and the feedback was overall good. In the subsections below one can find first more information about the methodology used for the questionnaire and then the results for the quantitative and qualitative part in the order they were placed in the survey.

5.1 Questionnaire methodology

The feedback survey was structured so that it could be filled in rather briefly, if only using the nominal multiple selection questions. They were also mandatory, so everyone who filled in the survey needed to give input on those. Additionally, there were open ended questions, giving the respondent a possibility to elaborate on the answers and also comment on things that may have been left out from the multiple selection questions.

The benefit of having quantitative questions, which mean the type of questions the respondent has ready-made answers for and thus should choose the one that is the closest to his/her opinion, is that the answers can be viewed with numerical data. This makes it easier to have a good overview of the results present them in different graphs. However, with qualitative questions one can get much better insight to the responses and they can provide valuable information that would have been overlooked with having only quantitative questions.

5.1 Reliability and validity

The feedback survey results present the opinion of forty-two of the fifty-five participants who partook in the hackathon. This means there are still thirteen people unpresented in the results and this amounts to 23.6%, which is a considerably large percentage. However, when looking at the results the majority of the feedback is

good and so it can be questioned whether the answers of the missing percentage would have had any significant impact. Also it should be noted that the discussions that took place in the event did not bring up any topics that are not already presented in the feedback survey. For this reason, the feedback presented by forty-two participants is taken as the base for creating the recommendations for future hackathons and it is supported by the discussions occurred during the hackathon and by the open interview with the project manager. There is also a separate part for the organizing team's comments since the feedback survey was only sent to the participants.

The validity of the results is based on how well the respondent understood the questionnaire questions and how well the intended answer matches with the actual one. The author would evaluate the open questions to be quite straight forward, but there is a possibility that the given answer has not been understood the way the respondent meant it. In addition, the quantitative questions have some room for interpretation and a scale of four with answers ranging from one: "too little" to four: "sufficient" it could be argued everyone might not understand a rating of two or three the same way. Also the questions are sometimes combining many different areas and so the given rating should be viewed as an average rating for the respective questionnaire question. There should not be many questions that would have a faulty response due to the language used. English is the corporate language used in Wärtsilä and all respondents either work in Wärtsilä or for a company that is working for Wärtsilä, so the language skills should be sufficient.

Another point that comes for the validity is the applicability of the questionnaire results. The results are used as the basis for the recommendations and so it should be pointed out that since there is only one case hackathon that these results are based on, the results may have been different had an another case hackathon been represented in them. Also, as per usual the recommendations given in the thesis and in hackathon handbook should be taken with reservations as what works for one situation and group of people may not work for another one.

5.2 Preparations

The preparations for the participants included the initial communications for the hackathon, topic survey, application survey, initial communications regarding the access rights and practicalities, the trainings and the kick-off meeting. 22 (52.4%) of the respondents felt that the preparations were sufficient.

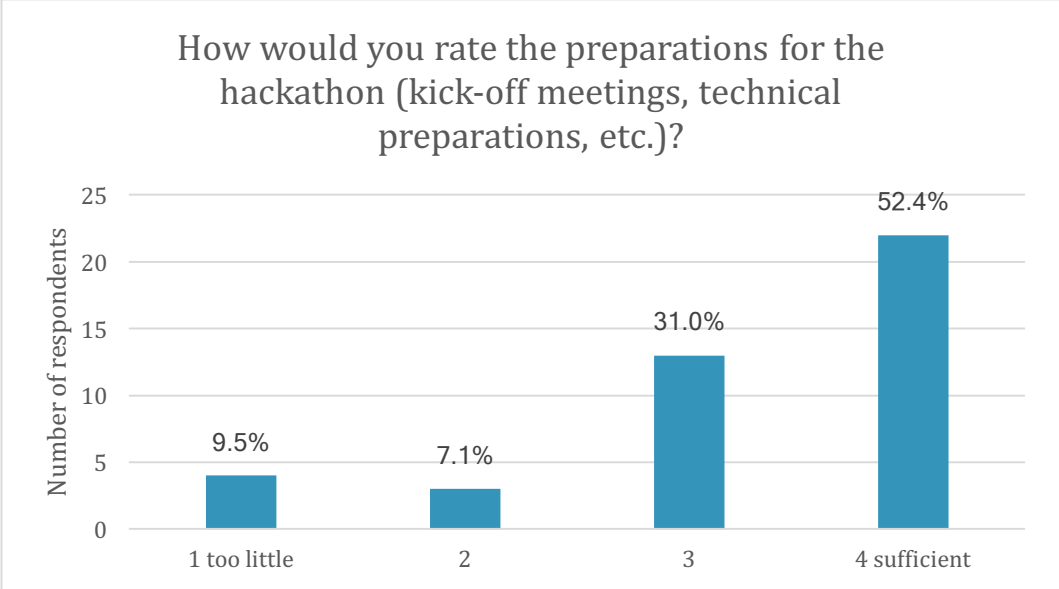


Figure 2. Rating of preparations.

Information the participants received regarding the practicalities included the time table, the location and the contact persons. The participants were also asked to provide if they had any special needs and/or diets that should be taken into consideration in the event. A majority of 23 respondents (54.8%) thought the information received regarding the event practicalities was sufficient.

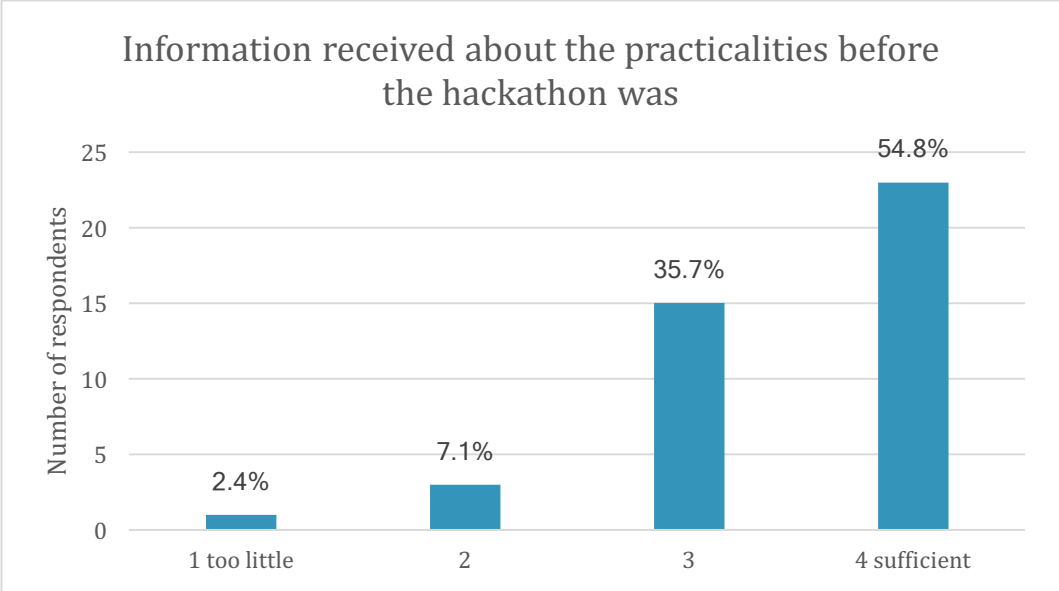


Figure 3. Rating for information received.

The next question was for additional comments regarding the preparations. For this eighteen out of forty-two respondents left a comment. Seven comments were positive feedback on the preparations and the rest can be grouped to technical readiness and communication.

For technical readiness some comments regarding access rights were made. Some wished that all accesses would have been better checked beforehand. Also a better access for externals to move in the facilities was requested, but this could not have been done, due to Wärtsilä's security policy. For the technical platform, more of its capabilities were wished to be offered as well as better support.

For communications, the cleaners should have been notified so that the work notes from the first day would not have been lost. Also the expectation from the business owners was wished to been clearer. Some respondents also commented they wish the teams would have better prepared beforehand.

5.3 Event

24 (57.1%) of the respondents thought that the event schedule, as well as the communications and pitching session organization were well organized.

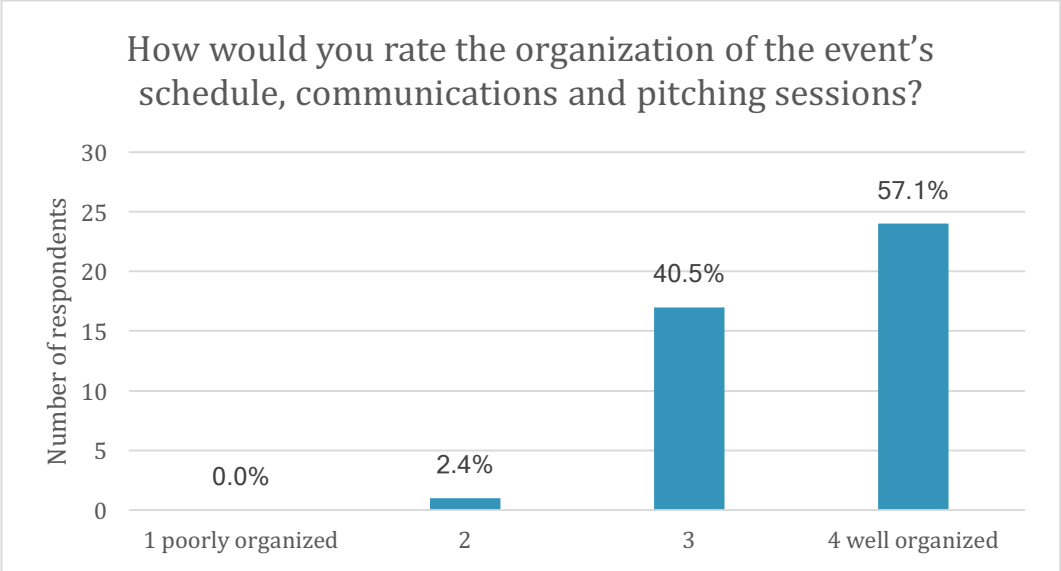


Figure 4. Rating for event schedule, communications and pitching session.

The actual organization and preparations of the hackathon came all together in the actual event days. For SAP Hackathon, the survey respondents a clear majority would say that the practical arrangements were well arranged.

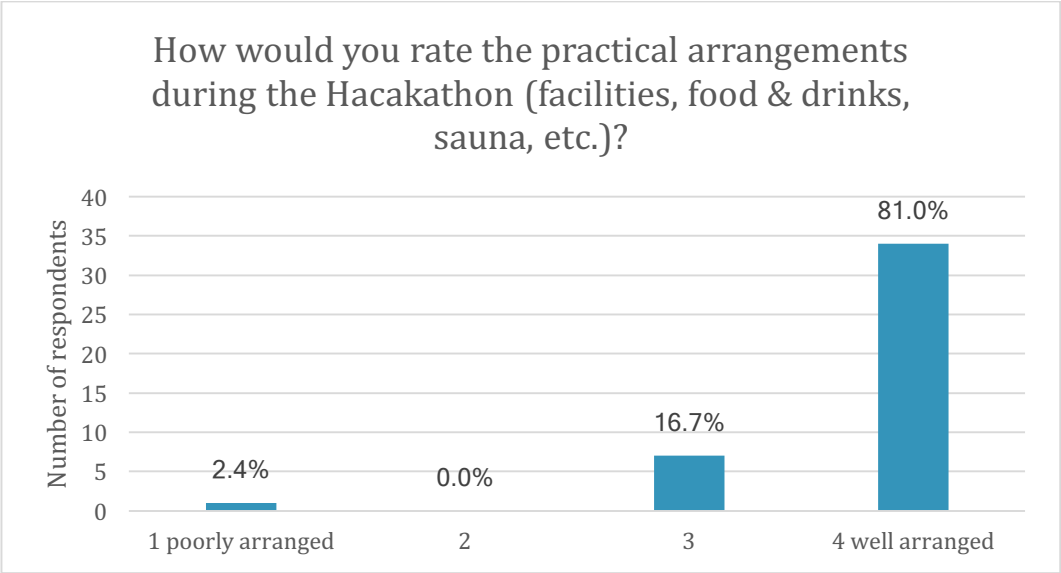


Figure 5. Rating for practical arrangements during hackathon.

After the previous question there was room for any comments the respondents may have regarding the judgement criteria, selecting the winner or prizes. Twenty out of forty-two respondents left a comment. Five comments were complementing the arrangements and the rest of the comments are gone through below.

For the judgement criteria, there was some dissatisfaction regarding the match between the judgement criteria and the winning solution. More emphasis was wished for the solution technology and out-of-the-box thinking. The voting also came up, as one of the respondents wanted clarification on the terms of use and to have the results published. For the final pitching longer time and a possibility to answer any questions was requested. There was also a comment about the selected topics being too different, since some touched corporate level business problems and some business process related problems. One respondent also stated that giving one winning team a sum for the solution implementation was not encouraging other solutions realization.

The next question "What can be improved next time?" was an open question and for it twenty-five out of forty-two respondents left a comment. Three answers were complementing the hackathon but the rest of the answers can be grouped to following three categories: preparations, event practicalities and final pitching.

For the preparations one respondent wished for better marketing of the hackathon, since more people would have wanted to participate, but did not find out of the hackathon in time for the application period. Another respondent wished the teams would have been put together with more consideration paid to their background and role of the participant. One reply stated more time to prepare for the topic would have been needed and another one wrote that it should have been checked that the vendor participants had understood the topic. One respondent commented they would have wanted more time to know the technology and that more support would have been needed from SAP consultants. The last reply to this category stated that the participants' backgrounds should have been shared more in advance.

For event practicalities the comments included wishes for an additional 'hacking' day, better commitment of the team and wider access in the systems. Two comments were regarding the evening dinner and better labeling for the food was requested as well as a better selection of drinks.

The most of the responses for the question were regarding the final pitching. Some comments were made of the team with the video audio problem and more time for

rehearsing and for technical check-up was requested. Some also wished the time for the pitching would have been longer and that it would have been followed by any questions or comments the judges would have. One person wished there was more information about the broadcasting of the final pitching and another one wished for more than one team to have been rewarded. Some improvements were also wished for the judgement criteria; technical solution, effort needed for the creation of the application, and the suitability of the solution for the provided business case could have been added as variables. Also more visibility on the different aspects of the judgement was requested.

To find out how well the hackathon corresponded to the expectations of the participants, the following question was added. It should be noted that many of the participants had not participated in a hackathon before and thus expectations might differ depending on how much they knew in general about hackathons. For SAP Hackathon, half of the respondents thought the event met the expectations and 17 (40.5%) stated that the expectations were exceeded by the event.

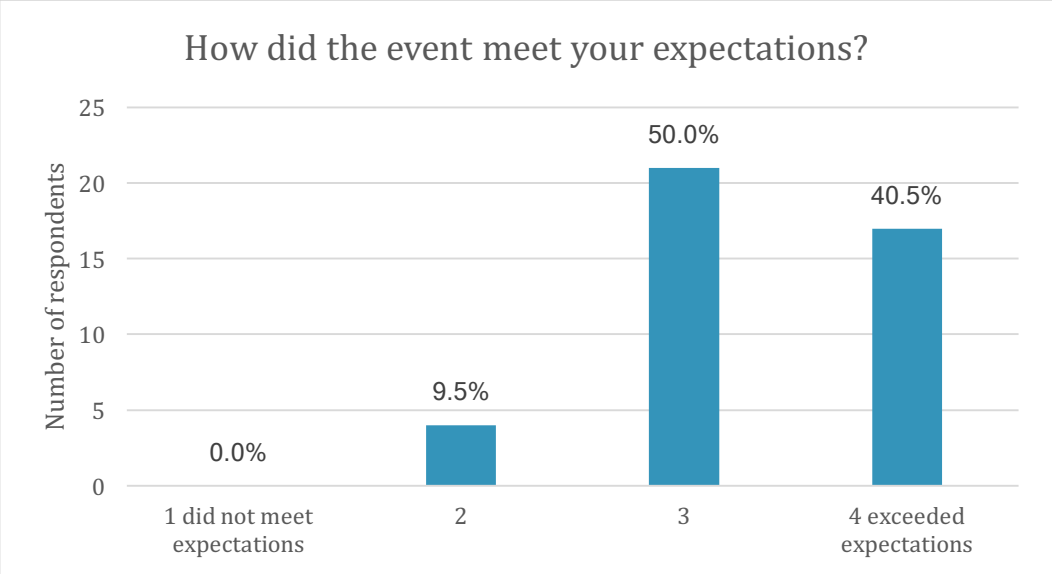


Figure 6. Rating for event meeting expectations.

To continue from the previous theme, the last impression of the event was measured by asking whether the participants would like to participate in a similar event in the future and for this question the clear majority, 39 (92.9%) said they would and 3

(7.1%) would consider it. No respondent answered negatively to this question, which can be understood as the general impression of the hackathon to have been overall good.

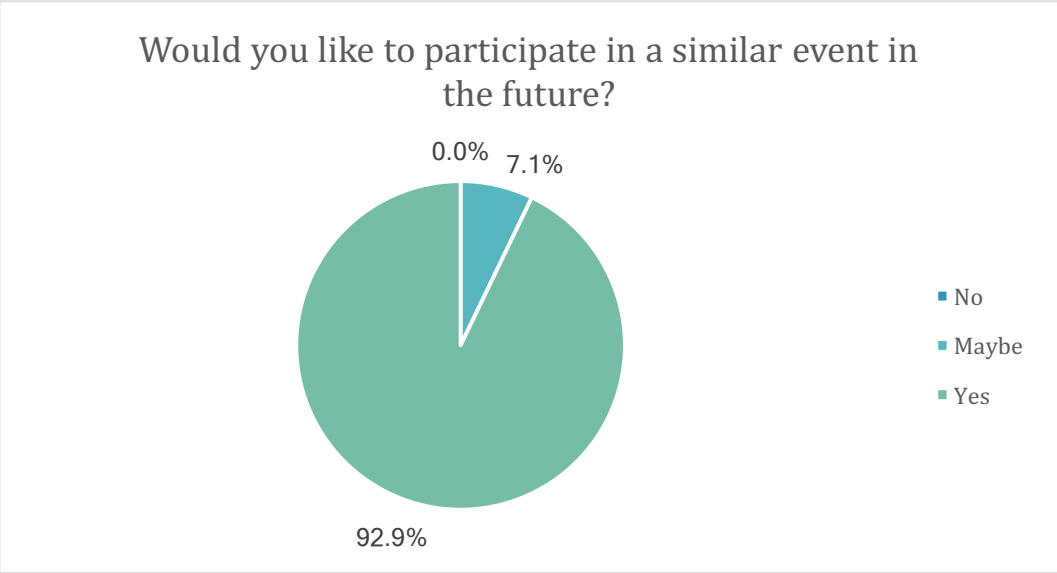


Figure 7. Willingness to participate in a similar event in future.

The last quantitative question was to rate the hackathon. Of the respondents 2 (4.8%) rated it average, 17 (40.5%) rated it as good and a majority of 23 (54.8%) rated it excellent. To conclude, it can be said that based on the survey results the hackathon event was a success and that the participants left it with a positive impression.

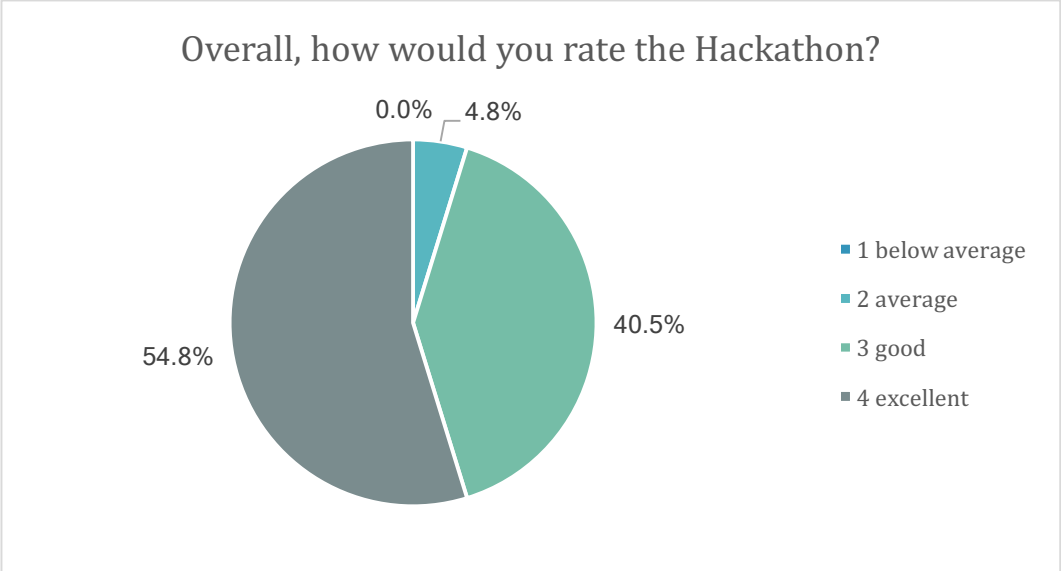


Figure 8. Rating for hackathon.

The last question of the survey was an open field for comments, to which nineteen of the forty-two respondents left a reply. Seventeen of the comments were either complementing the event or thanking for organizing it. Improvement ideas included giving the applicants an opportunity to influence the decision of the team they would be placed in, to better match the participant and the topic. It was also said that too much time was spent to prepare for the pitching, since that time could have been used for developing the solution. Also, one respondent stated that it would have been nice if the food was served in the conference rooms instead of the common area and another respondent commented that even though the solution was nice to develop in the hackathon, it might be challenging to continue afterwards due to the personal work load.

5.4 Key points

To sum up the survey results, most of the improvement points for SAP Hackathon gathered from the feedback survey were for technical readiness, judgement criteria implementation and final pitching arrangements. Despite the comments on the shortcomings of the event, the questionnaire results should be viewed as a whole and thus the overall rating of the hackathon. 54.8% of the respondents still rated SAP Hackathon as excellent and 40.5% rated it as good, leaving only 4.8% rating

to average. No respondent would have rated the hackathon below average, and so it could be said that in the end the hackathon was a success in the respondents' opinion.

5.5 Lessons learned by organizing team

After going through the feedback survey results, there was a discussion with the organizing team regarding improvement points. Below are listed the points that came up in the discussion, some of which have already come up in the feedback survey results. These points could be improved when organizing a similar hackathon in the future.

Commitment. This is a rather hard thing to fix, since the commitment could be described as a sum of personal interest and task assignments, which is restricted by the time constraint. But to at least try to achieve better involvement, formal meetings and discussions could have been started earlier and a bigger time allocation could have been requested for the organizing team members. A checklist would also be beneficial for smoother team work.

Visual design. Some might have noticed that for the case hackathon there were a total of four visual looks used during the communications, out of which two were officially chosen. This might sound slightly complicated and could have been avoided if the event's look and image would have been decided on already before the first communication.

Marketing. Even though the topic selection survey was marketed through various channels, the importance of it could have been highlighted better. One department was unpresented in the topic idea collection and so their participation was non-existent. For better visibility the surveys could have been marketed by persons who already work with the related platform and are in communication with the business division representatives.

Topic selection. The topic selection process would have taken less time if the platform's nature and capabilities would have been better introduced prior to the topic survey. In the case hackathon the topic suggestions had to be modified to be

suitable for the platform which of course took some time. This could have been avoided by e.g. hosting an info session regarding the technical functionalities of the platform before the topic survey was opened.

Technical readiness. The technicalities were not really as well in place as expected, since some participants had access issues. The expectation management should have been done better, since there had been a misunderstanding regarding SCP's applications available for the hackathon. Perhaps these could have been avoided if there was one person with technical background assigned to lead the preparations. The technical support team could also have been involved at an earlier time to make the platform ready for development already at the hackathon. In the case hackathon some teams had to use a trial version as a workaround and to spend time getting basic things in place during the event, and that time was away from building the solution.

Event registration. The registration was not fully structured and there were running errands that had to be taken care of whilst the registration occurred. This could have been avoided by having one person in the registration the whole time and making sure all things that needed to be taken care of were assigned to someone else. Again, a checklist would be a good help.

Dinner. For the SAP Hackathon there was a designated area for socializing and dining. The food was ordered from the catering vendor, as is the policy in the Wärtsilä facilities, but this turned out to be not the most ideal option. The food was prepared and brought to the facilities, but it had to be heated and served by the organizers. This was not a smooth task to do since the space was limited and there were many people waiting Additionally, instructions were non-existent and the allergy information was vague.

Final pitching. The pitching is the event highlight and to make it even better, more music could have been welcome to entertain the public. Additionally, more time should have been reserved for the changing of the pitching groups. In the case hackathon the teams had two minutes for changing and five minutes for pitching. Also, since the pitching was broadcasted live for other Wärtsilians, it should have

been made sure all pitchers were visible in the camera area. There was one presenter that was out of the camera range for a small time. This could have been avoided by marking the area visible in the camera e.g. with tape on the floor. Also the audio should have been with less disturbance, which could have been minimized with better communication and checking with the audio mixers.

Judgement. The judgement criteria were predefined and communicated before the event and it had also been approved by the event sponsor. However, some people thought it was not followed by the word and even though the judgement is in the end in the judges' hands, it was a point of dissatisfaction for some. To ensure the judges are all fully familiar with the expectations, a meeting could have been arranged before the event to go through the criteria and if needed, modify it according to the judges' comments.

6 CONCLUSION

A hackathon similar to the SAP Hackathon takes time and resources to organize. Like for everything else, it is also true for hackathons that it is hard to please everyone. People are different and therefore what suits one person does not necessarily please another one, and hence it is up to the organizers to make the decision on how to arrange different aspects of the event. It is good to start planning at least half a year before the event takes place, and enough time should be reserved for the preparations. In the Hackathon handbook (Appendix 6) the following instructions are collected to a quick guide for Wärtsilä's future hackathon organizers.

The time reserved for the planning should be at least six months. The organizing team should we well-structured and they should work together. Status meetings are a good way to stay updated with the progress. The organizing team can have member such as leadership member, project owner, project manager, coordinator, communications coordinator, facilitator and solution architect. It is recommended to have time allocations form the members of the organizing team for a better commitment and to have clear roles and responsibilities, which can be defined e.g. by a checklist. Having a checklist is also a good way to structure status meetings, since each point can be a point of discussion.

The whole process starts with making and presenting the project plan, which can present e.g. the following: planned timeline, objectives of the event, expected benefits, proposed budget, approach (including target group and topic selection) and practical information on participants, organization, setup, venue and prizes. After the project plan is done and accepted the initial communications can be made. For this it is important to make sure that the whole target group is reached out to. The communication should be done all the way from initial communication to finishing the event to keep everyone updated. The frequency of the communications should be designed to fit the purpose and for this reason it is good to draw a communications plan. For creating the best image of the event, it is recommended to have the visual look and possible logo for the event ready before initial communications. If the hackathon is to have external participants it should be taken

up with ICT purchasing and the communication on this has to be started early to have enough time to prepare any needed contracts. Also booking the venue is to be done as soon as possible, to make sure the desired venue is not already booked.

If the hackathon topics are not pre-defined, they can be found by e.g. collecting the ideas with a topic survey. For the topic search it is important to give clear instructions on the capabilities and direction on the topics, so that as many as possible of the suggestions are ready as they are suggested. For topic selection is it also important to make sure they are all on the same level, especially if the hackathon will have some winning solution. If there is a need for judges, it is good to start the communication with the potential candidates early and to agree on the judgement criteria with them.

The hackathon participants can be selected e.g. via applications. It is important to construct the application in a way that any needed information for making the applicant selection is provided. This can include e.g. an evaluation of the skills and motivation. It is also good to collect information regarding any special diets and allergies at this point, since it will be needed later in any case. Also, if there are preselected topics, it may be a good idea to provide a possibility for the applicants to express their wishes regarding which topic they work with. The team may also be complemented with a business owner, who is taking the lead in the team and capable of taking the solution forward after the hackathon. When the participants for the hackathon are selected and they are grouped as is seen the best, it is good to have a meeting with each team separately to go through the team members, topic, practicalities and give the participants an opportunity to ask any open questions. If seen beneficial, a training can also be held to better prepare the participants e.g. in case of a new platform.

After all the necessary arrangements are done it is good to purchase anything needed (food, drinks, decorations, fun things, etc.) and plan the whole event to the detail (timetable, responsibilities of the organizing team during the event, etc.). It is also good to involve a technical resource to make sure everything is working access wise and that there is someone to coordinate regarding any other technical readiness related topics. Before the hackathon event starts all venue preparations should be

done. It is also good to have some resource available for any unexpected errands that may occur during the hackathon.

The event itself should be opened with a proper welcoming and instructions. Enough time should be reserved for the ‘hacking’ itself, but also for lunch and breaks. It is important that any allergies or special diets informed are taken into consideration in the snacks provided and that the labeling of them are appropriate. The event can also have other planned activities like visitor hour, sauna and networking.

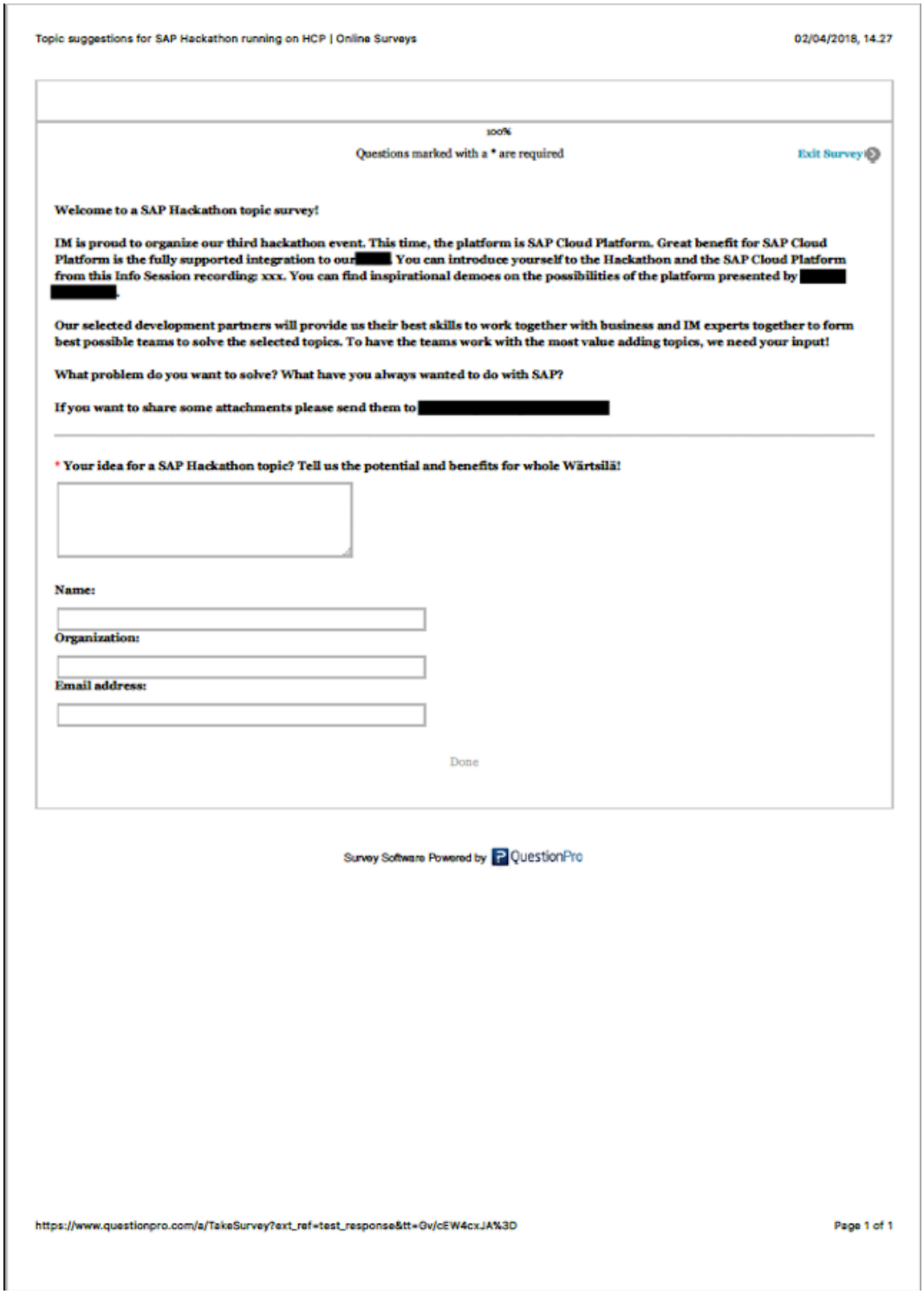
If the event is competition based, it is important this and the selection criteria has been informed well in advance. To ensure everything goes as smoothly as possible in the final pitching, technical checks should be held beforehand and enough time to prepare should be allowed for each team. The final pitching could be from 5 to 10 minutes per team, depending on the time available and there should be a clear stage to present on. A Questions and Answers possibility would also be welcome, for the team to be able to clarify anything that may not have been clear from the presentation itself. Time should be reserved also for changing the presenting team and to lighten up the mood music could be played in any “breaks” so that the audience stays in a good mood. If wanted voting can also be implemented and if so, it can be done by e.g. an online survey. If voting is made a possibility, it is important to clearly communicate what are the terms of use, impact of the voting and how will the results be published. It could also be considered if having one winner is the best way to go, and should e.g. audience favorite be rewarded separately with a smaller award.

After the final presentations and possible rewarding of the winners it is time to cleanup and make final communications on the event. Any solutions started from the hackathon could be continued and this could be led by the business owner. The original organizing team can make some status updates on the progress of the topics, but in general the team members go back to their other tasks.

Most of all the hackathon should focus on the working together towards innovative solutions and having fun while doing so.

APPPENDICES

APPENDIX 1. Survey for topic suggestions for the hackathon



Topic suggestions for SAP Hackathon running on HCP | Online Surveys 02/04/2018, 14.27

100%

Questions marked with a * are required Exit Survey

Welcome to a SAP Hackathon topic survey!

IM is proud to organize our third hackathon event. This time, the platform is SAP Cloud Platform. Great benefit for SAP Cloud Platform is the fully supported integration to our [redacted]. You can introduce yourself to the Hackathon and the SAP Cloud Platform from this Info Session recording: xxx. You can find inspirational demoes on the possibilities of the platform presented by [redacted].

Our selected development partners will provide us their best skills to work together with business and IM experts together to form best possible teams to solve the selected topics. To have the teams work with the most value adding topics, we need your input!

What problem do you want to solve? What have you always wanted to do with SAP?

If you want to share some attachments please send them to [redacted]

*** Your idea for a SAP Hackathon topic? Tell us the potential and benefits for whole Wärtsilä!**

Name:

Organization:

Email address:

Done

Survey Software Powered by QuestionPro

https://www.questionpro.com/a/TakeSurvey?ext_ref=test_response&tt=Gv/cEW4cxJA%3D Page 1 of 1

APPENDIX 2. Application survey (1/2)

Location: Wärtsilä Headquarters, Helsinki
12 September 12:00 EET – 14 September 16:00 EET

Application period 14 June 2017 - 20 June 2017.

The data is in there - What more can be done when the cloud capabilities are connected to existing ERP system? Three days of intensive collaboration and fun coming up! Experience, see and feel the event locally in Helsinki and virtually via Yammer. Let's raise the user experience of SAP with new functionalities and create more value out of existing data. We are seeking people with a "can do" -attitude from different fields, so don't hesitate to apply!

Topics

Our hackathon will be filled with interesting topics, ranging from new payment possibilities to adding IoT capabilities in containers, and back to document flow tracking and mobile capabilities. For wild ones, we have a futuristic open topic targeting improved sales negotiation positioning.

Prize? Joining the hackathon is prize number 1. The winning topic will be realized and of course some other prices are awaiting too! The SAP Cloud Hackathon is packed with fun, competition, exciting challenges, sauna and snacks! Note! Before applying remember to confirm with your superior the possibility to attend. The costs (e.g. travel and accommodation) are paid respectively with the participants' cost centers.

100%

Questions marked with a * are required Exit Survey

Contact Information

* **First Name :**

* **Last Name :**

* **Email Address :**

* **Business unit**

-- Select --

* **Department**

APPENDIX 2. Application survey (2/2)

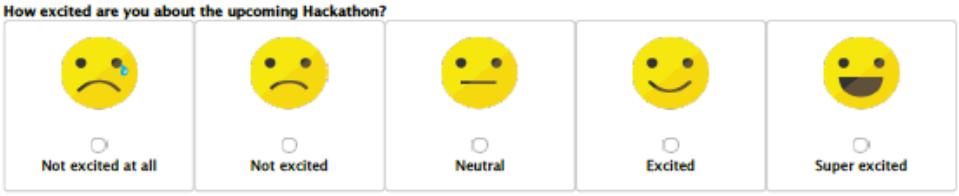
Experience with SAP

- Expert
- Moderate
- Low
- None

* **Motivation**

What do you have to offer your team?

How excited are you about the upcoming Hackathon?



Not excited at all	Not excited	Neutral	Excited	Super excited

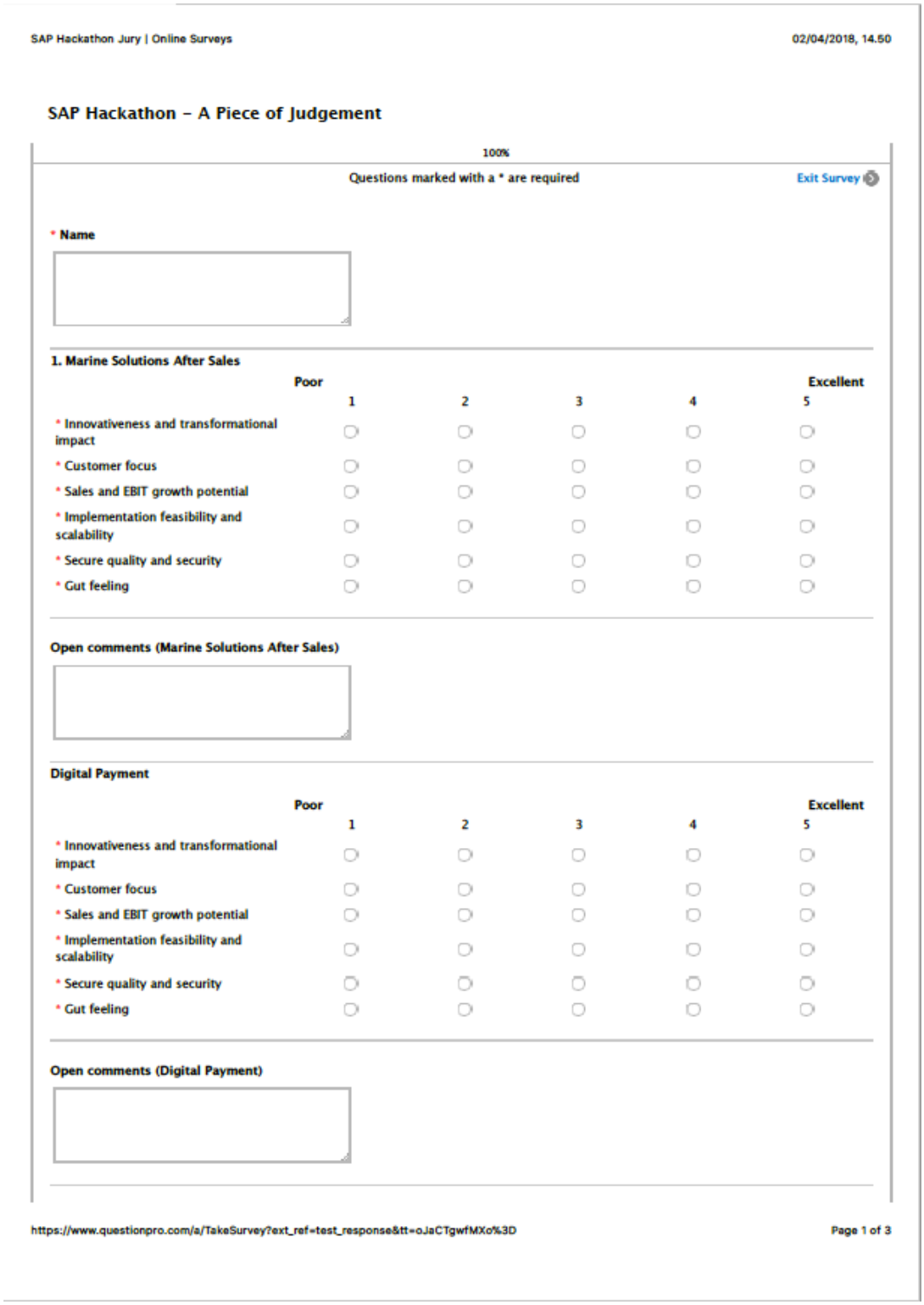
* **Please check the box**

- I have an approval to join

Done

For futher information, please check our Compass page
For any questios you may have, please contact Amanda Goman +358107095814

APPENDIX 3. E-form for jury (1/3)



SAP Hackathon – A Piece of Judgement

100%

Questions marked with a * are required Exit Survey

* **Name**

1. Marine Solutions After Sales

	Poor 1	2	3	4	Excellent 5
* Innovativeness and transformational impact	○	○	○	○	○
* Customer focus	○	○	○	○	○
* Sales and EBIT growth potential	○	○	○	○	○
* Implementation feasibility and scalability	○	○	○	○	○
* Secure quality and security	○	○	○	○	○
* Gut feeling	○	○	○	○	○

Open comments (Marine Solutions After Sales)

Digital Payment

	Poor 1	2	3	4	Excellent 5
* Innovativeness and transformational impact	○	○	○	○	○
* Customer focus	○	○	○	○	○
* Sales and EBIT growth potential	○	○	○	○	○
* Implementation feasibility and scalability	○	○	○	○	○
* Secure quality and security	○	○	○	○	○
* Gut feeling	○	○	○	○	○

Open comments (Digital Payment)

APPENDIX 3. E-form for jury (2/3)

3. Admin Billing Automation

	Poor 1	2	3	4	Excellent 5
* Innovativeness and transformational impact	○	○	○	○	○
* Customer focus	○	○	○	○	○
* Sales and EBIT growth potential	○	○	○	○	○
* Implementation feasibility and scalability	○	○	○	○	○
* Secure quality and security	○	○	○	○	○
* Gut feeling	○	○	○	○	○

Open comments (Admin Billing Automation)

4. Connecting Suppliers with Wärtsilä

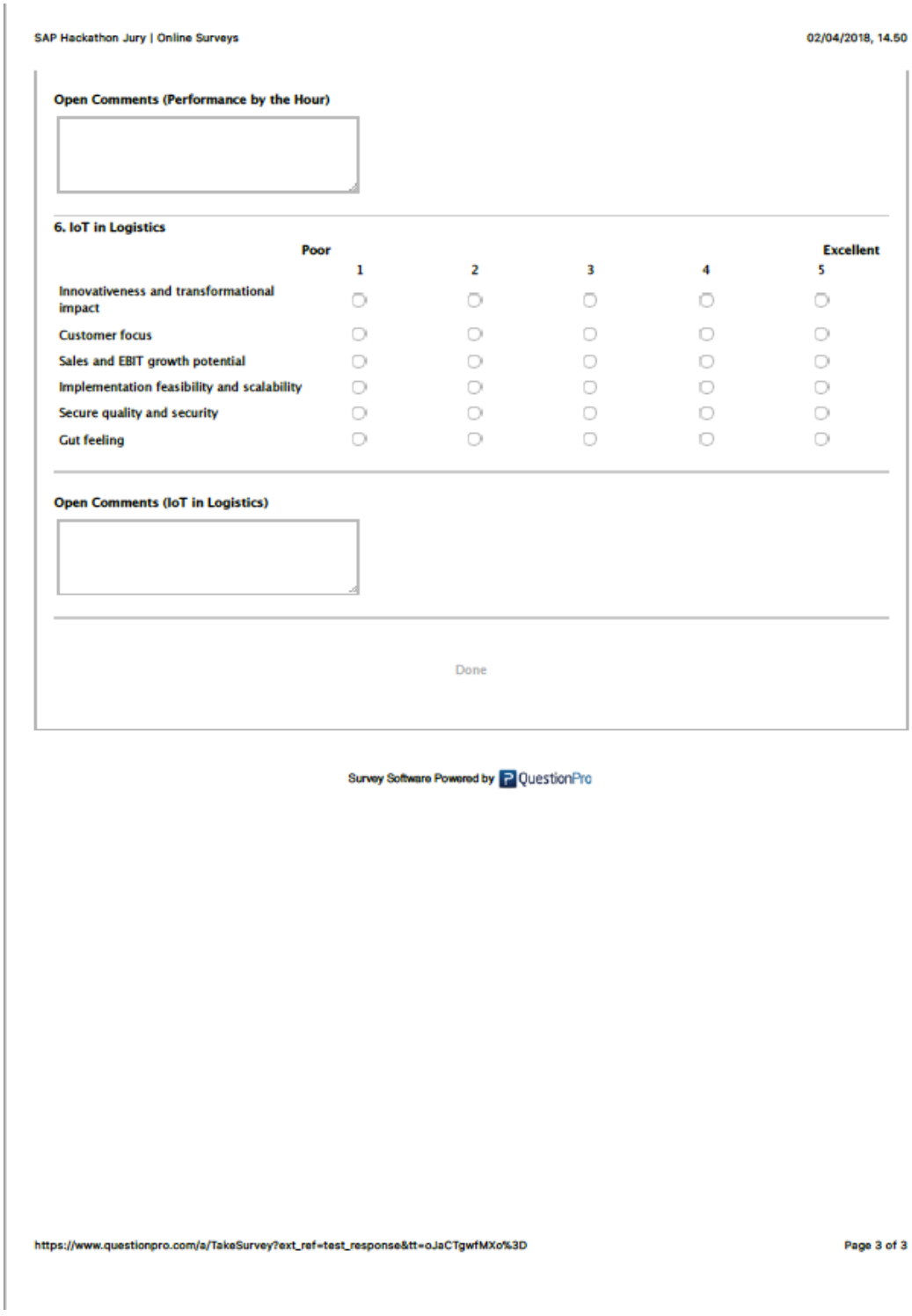
	Poor 1	2	3	4	Excellent 5
* Innovativeness and transformational impact	○	○	○	○	○
* Customer focus	○	○	○	○	○
* Sales and EBIT growth potential	○	○	○	○	○
* Implementation feasibility and scalability	○	○	○	○	○
* Secure quality and security	○	○	○	○	○
* Gut feeling	○	○	○	○	○

Open Comments (Connecting Suppliers with Wärtsilä)

1. Marine Solutions After Sales

	Poor 1	2	3	4	Excellent 5
* Innovativeness and transformational impact	○	○	○	○	○
* Customer focus	○	○	○	○	○
* Sales and EBIT growth potential	○	○	○	○	○
* Implementation feasibility and scalability	○	○	○	○	○
* Secure quality and security	○	○	○	○	○
* Gut feeling	○	○	○	○	○

APPENDIX 3. E-form for jury (3/3)



Open Comments (Performance by the Hour)

6. IoT in Logistics

	Poor 1	2	3	4	Excellent 5
Innovativeness and transformational impact	○	○	○	○	○
Customer focus	○	○	○	○	○
Sales and EBIT growth potential	○	○	○	○	○
Implementation feasibility and scalability	○	○	○	○	○
Secure quality and security	○	○	○	○	○
Gut feeling	○	○	○	○	○

Open Comments (IoT in Logistics)

Done

APPENDIX 4. Survey for audience favorite

Vote for the best Hackathon team

100%

Questions marked with a * are required Exit Survey

Vote now for your favorite SAP Hackathon – A Piece of Cloud –team!

Thank you for your time and support.

Contact Information*

* **First Name :**

* **Last Name :**

* **What was your favorite SAP Hackathon – A Piece of Cloud –team?**

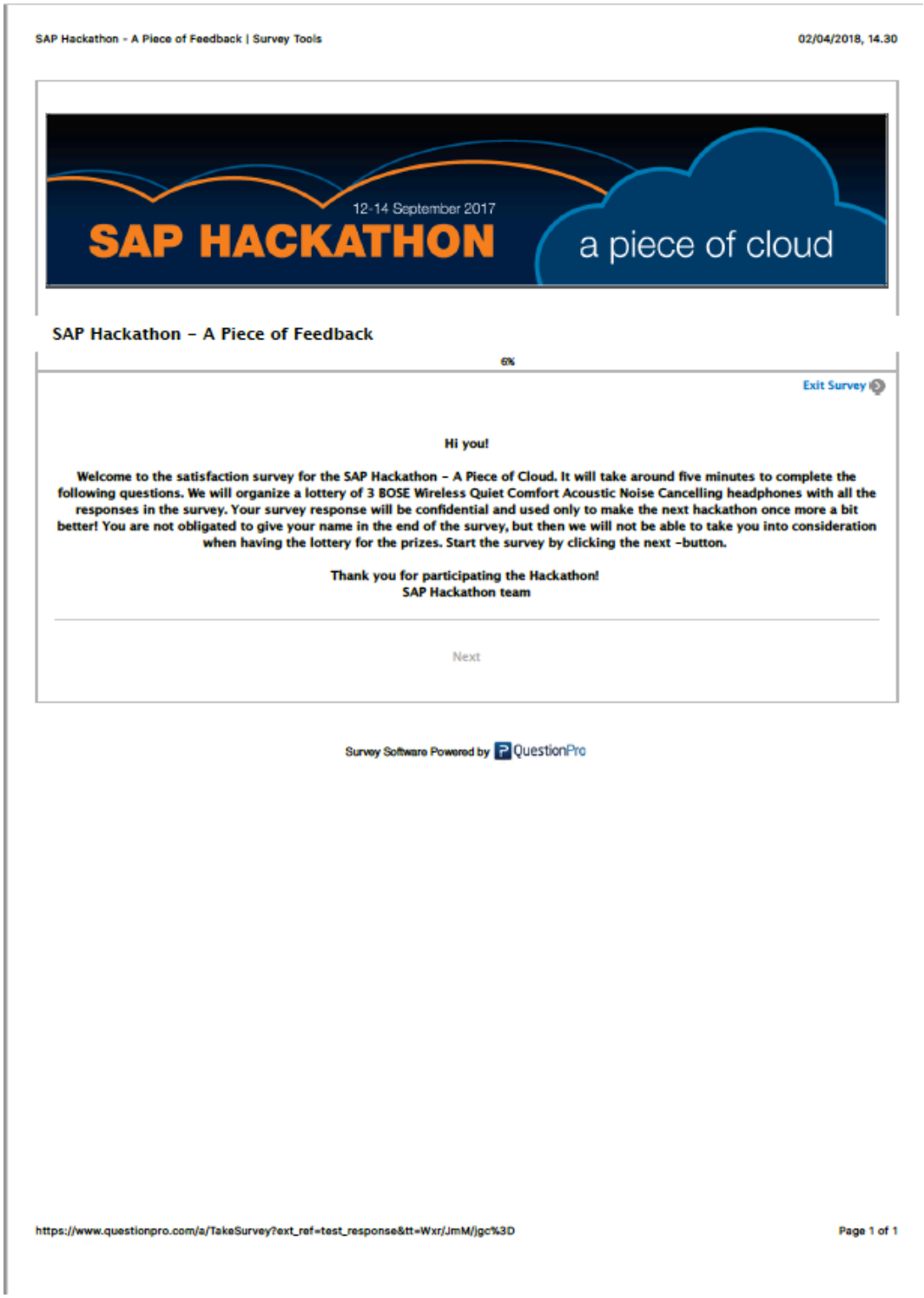
- Admin Billing Automation
- Connecting Suppliers with Wärtsilä
- Digital Payment
- IoT in Logistics
- Marine Solutions After Sales
- Performance by the Hour

Vote

*Your name will not be linked to your vote. It is required just to check people do not vote twice, since only one vote for a person is granted.

Survey Software Powered by QuestionPro

APPENDIX 5. Feedback survey (1/5)



SAP Hackathon - A Piece of Feedback | Survey Tools 02/04/2018, 14.30

12-14 September 2017

SAP HACKATHON

a piece of cloud

SAP Hackathon – A Piece of Feedback

6%

Exit Survey

Hi you!

Welcome to the satisfaction survey for the SAP Hackathon – A Piece of Cloud. It will take around five minutes to complete the following questions. We will organize a lottery of 3 BOSE Wireless Quiet Comfort Acoustic Noise Cancelling headphones with all the responses in the survey. Your survey response will be confidential and used only to make the next hackathon once more a bit better! You are not obligated to give your name in the end of the survey, but then we will not be able to take you into consideration when having the lottery for the prizes. Start the survey by clicking the next –button.

Thank you for participating the Hackathon!
SAP Hackathon team

Next

Survey Software Powered by QuestionPro

https://www.questionpro.com/a/TakeSurvey?ext_ref=test_response&tt=Wxr/JmM/jgc%3D Page 1 of 1

APPENDIX 5. Feedback survey (2/5)

SAP Hackathon – A Piece of Feedback

93%

Back Questions marked with a * are required Exit Survey

Preparations

* How would you rate the preparations for the hackathon (kick-off meetings, technical preparations, etc.)?

- 1 too little
- 2
- 3
- 4 sufficient

* Information received about the practicalities before the hackathon was:

- 1 too little
- 2
- 3
- 4 sufficient

Additional comments about the preparations:

Event

* How would you rate the organization of the event's schedule, communications and pitching sessions?

- 1 poorly organized
- 2

APPENDIX 5. Feedback survey (3/5)

- 3
- 4 well organized

---

* **How would you rate the practical arrangements during the Hacakathon (facilities, food & drinks, sauna, etc.)?**
- 1 poorly arranged
- 2
- 3
- 4 well arranged

Any comments about the judgment criteria, selecting the winner or prizes?

What can be improved next time?

---

* **How did the event meet your expectations?**
- 1 did not meet expectations
- 2
- 3
- 4 exceeded expectations

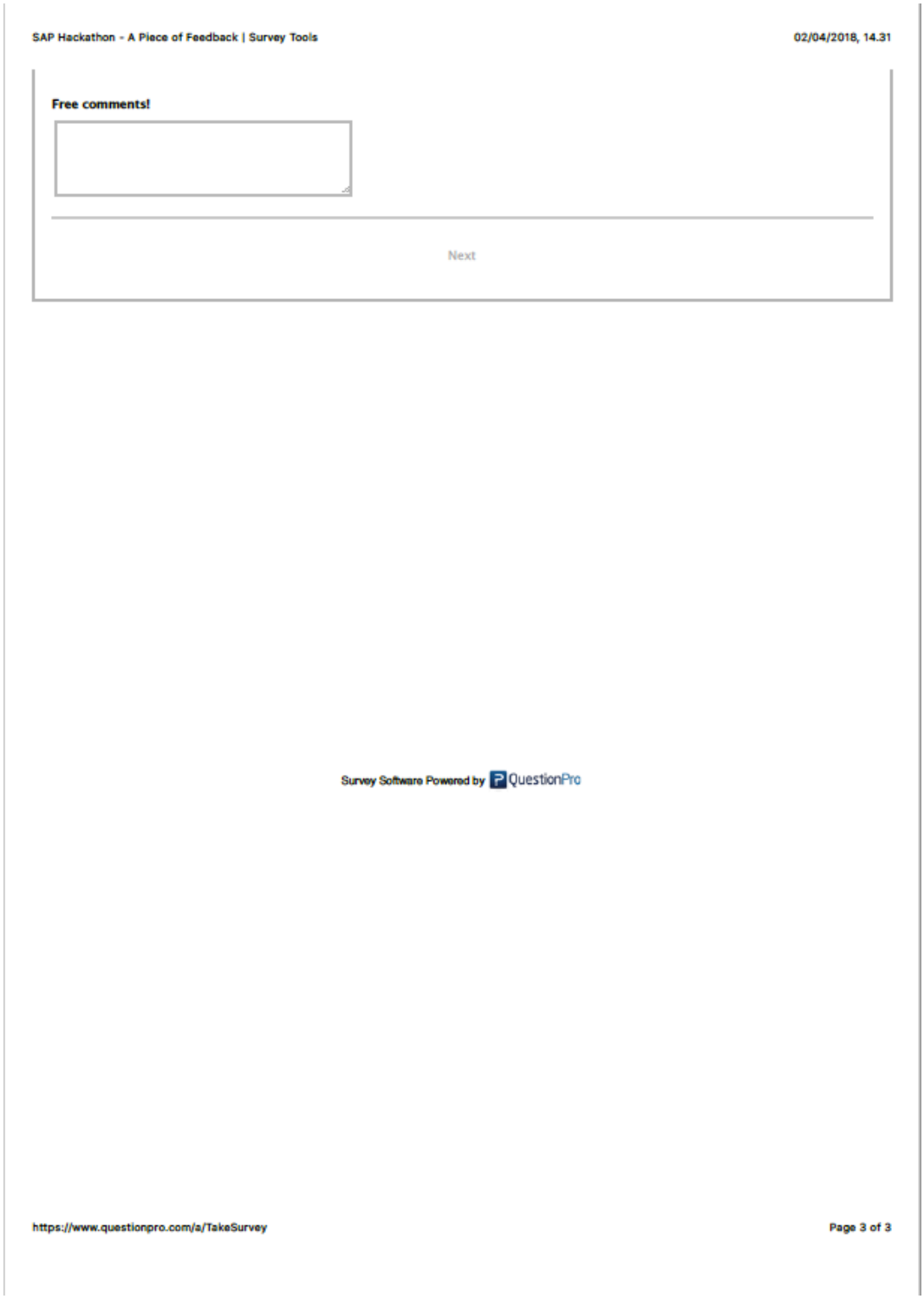
---

* **Would you like to participate in a similar event in the future?**
- No
- Maybe
- Yes

---

* **Overall, how would you rate the Hackathon?**
- 1 below average
- 2 average
- 3 good
- 4 excellent

APPENDIX 5. Feedback survey (4/5)

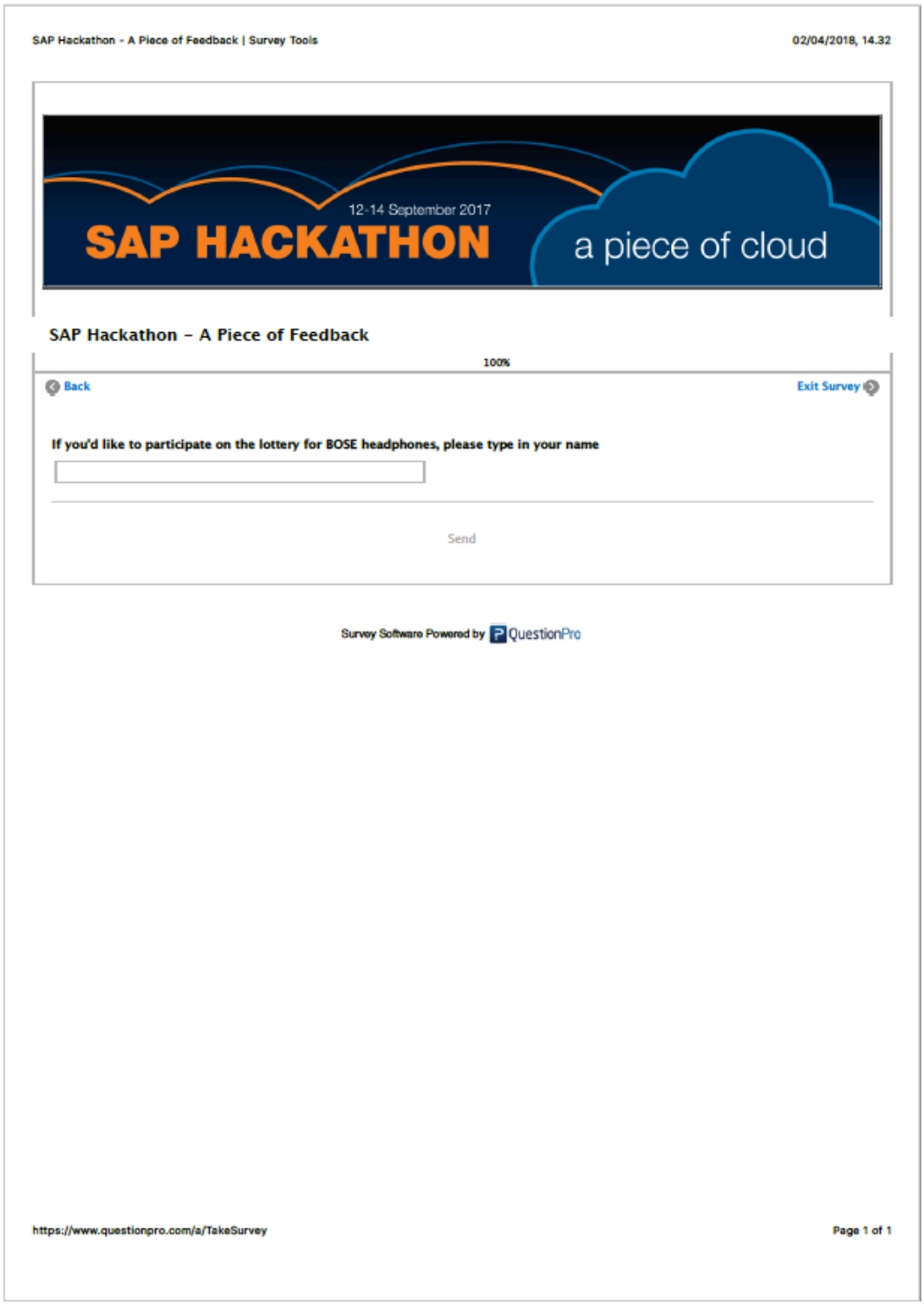


Free comments!

Next

Survey Software Powered by QuestionPro

APPENDIX 5. Feedback survey (5/5)



SAP Hackathon - A Piece of Feedback | Survey Tools 02/04/2018, 14.32

12-14 September 2017

SAP HACKATHON

a piece of cloud

SAP Hackathon – A Piece of Feedback

100%

Back Exit Survey

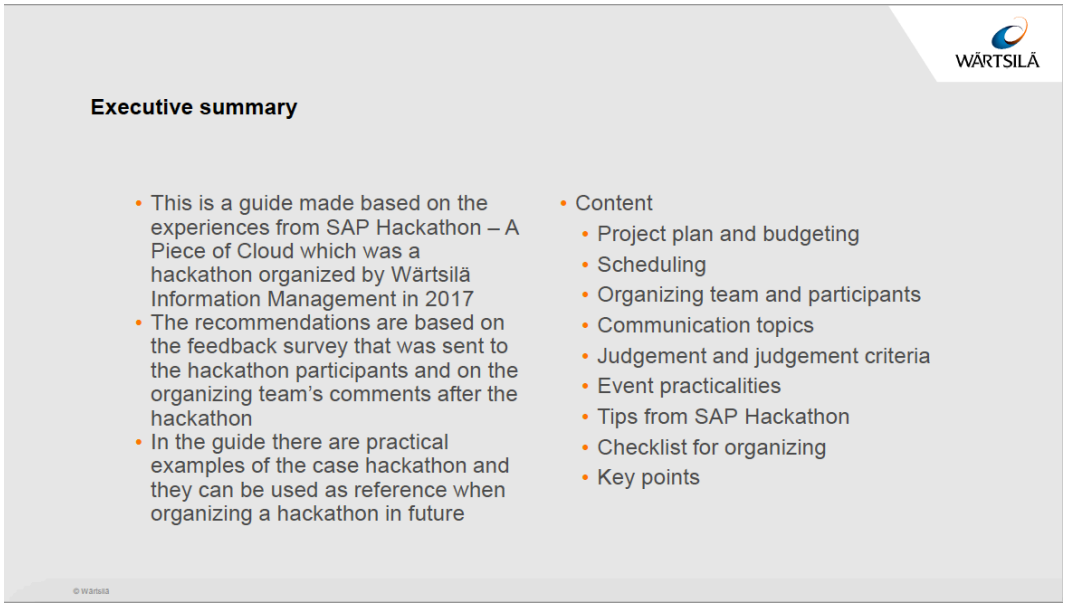
If you'd like to participate on the lottery for BOSE headphones, please type in your name

Send

Survey Software Powered by QuestionPro

https://www.questionpro.com/a/TakeSurvey Page 1 of 1

APPENDIX 6 Hackathon handbook (1-2/13)



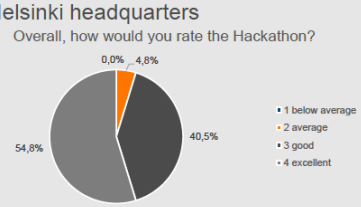
APPENDIX 6 Hackathon handbook (3-4/13)

WÄRTSILÄ

Organizing a hackathon

- Good way to bring in and try something new e.g. a new technical platform
- Good visibility
- Opportunity for cross-organizational work and co-creation

- The following slides have some points to consider when organizing a hackathon.
- SAP Hackathon – A Piece of Cloud that was organized by Wärtsilä Information Management (IM) in 2017 has been used as an example
- Depending on the suitability, the same approach can be utilized.
  - SAP Hackathon was organized 12-14.9.2017 in Helsinki headquarters
  - The hackathon had around 55 participants
  - From the feedback survey (response rate 76%), 40,5% rated it Good and 54,8% Excellent
  - Some topics initiated in the hackathon are still (4/2018) being worked on



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FINANCIAL PLANNING

WÄRTSILÄ

Project plan

- To get financial support for the hackathon, a project plan should be made and presented to the respective party
- Project plan should include the below
  - Planned timeline
  - Objectives of event
  - Expected benefit
  - Proposed budget
  - Approach
    - Target group
      Topic selection
  - Practical information on
    - Participants
    - Organization
    - Planned setup
    - Planned venue
    - Prizes

Budget items

- The following topics may be subjects to the budget
  - Venue
  - Communications & Branding
    - Visual elements
    - Decorations
    - Merchandise
  - Accommodation & Travel
  - Food & Snacks
  - Drinks
  - Prizes
  - Technical equipment/parts
  - Audio arrangements

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APPENDIX 6 Hackathon handbook (5-6/13)

WÄRTSILÄ

Schedule

- Timing and duration
  - It is good to reserve around half a year for the planning
  - To assure people's availability, the timing of the hackathon should not be during public holidays or any competing events
  - In the table on the right you can see some indication on how long different actions may take (the total may be less if the actions are done in parallel)
- Points for organizing team
  - Depending on the organizing team, it is good to reserve time properly for a month prior the hackathon and full allocation for the event days
  - Status meetings are a good way to keep updated on progress

Action	Duration
Preparing and presenting project plan	3 weeks
Making and publishing topic survey	3 weeks
Topic modification and selection	6 weeks
Vendor search and selection	4 weeks
Practical arrangements	3 weeks
Kick-off meetings	4 weeks
Hackathon event	2,5 days
Total	25 weeks for preparations + event days

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PEOPLE

WÄRTSILÄ

Organizing team

- There are different kinds of teams but for SAP Organizing team consisted of
  - Project owner + leadership members (3)
  - Project manager
  - Coordinator (2)
  - Communications coordinator
  - Facilitator
  - Solution architect
  - Technical support (3)
- Fixed status meetings make the teamwork easier. If possible, it is good to involve everyone in the team with individual tasks before the hackathon, for better engagement.

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Participants

- Team size ~8
  - Subject matter experts from business
  - Subject matter experts from IM
  - External developers
  - Business owner to lead the team and take the development further after the hackathon
- Chosen by application
- Coupled with pre-chosen topics
- Note: Some people prefer to have a say on which topic they work on

APPENDIX 6 Hackathon handbook (7-8/13)

WÄRTSILÄ

Communication

- Communications are needed at least for the below
  - Announcement of the hackathon to be held (internal, +external if applicable)
  - Topic search (if topics not ready defined)
  - Participant application and results for it
  - Practical arrangements for the participants
  - Judgement criteria and judges (if applicable)
  - Event updates for stakeholders
  - Feedback collection after event
  - Status updates on progress after hackathon
- It is good to create a communications plan and have a person responsible for the communications
- The visual look should be decided before initial communication
- For the organizing team the communication can be done e.g. with status meetings and frequency should be defined according to need

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WÄRTSILÄ

Judges and judgement criteria

- The possible judges should be contacted well in advance
- After the judges are selected the judgement criteria should be gone through with them in order to discuss the suitability and make possible changes
- In case voting is wanted to be implemented, the terms of use and impact of it should be communicated clearly

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SAP Hackathon judgement criteria

- Innovativeness and transformational impact
- Customer focus
- Sales and EBIT growth potential
- Implementation feasibility and scalability
- Secure quality and security
- Gut feeling

- Suggested additions:
  - Technical solution
  - Effort needed for the creation of the application
  - Suitability of the solution for the provided business case could

APPENDIX 6 Hackathon handbook (9-10/13)

WÄRTSILÄ

Event

- Things to consider
  - Facilities
  - Food and drinks
    - Note: allergies should be collected well in advance and the food served should have appropriate labels
  - Schedule
  - Staff to work on running errands
  - Good spirit
- It is also nice if there is some evening activities for socializing and networking
- It is good to remember that some people want to work late and e.g. in SAP Hackathon some people worked until midnight.

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Timetable for SAP Hackathon

Time	Day 1, 12.9.2017	Day 2, 13.9.2917	Day 3, 14.9.2017
8:00-9:00		Hacking	Hacking
9:00-10:00			
10:00-11:00			
11:00-12:00		Lunch	Lunch
12:00-13:00	Registration		
13:00-14:00	Event welcoming	Visitor hour	Final pitching
14:00-15:00	Hacking	Hacking	
15:00-16:00			
16:00-17:00			
17:00 →	Sauna and dinner	Sauna and dinner	

TIPS

WÄRTSILÄ

Comments regarding the event

- Event practicalities
  - Checklist for event days is a good tool to share the work within organizing team
  - It is good to have one person dedicated for the event registration
  - Dinner should be organized so that it goes without a hassle
- Final pitching
  - 5-10 minutes for each pitch
  - Q&A would also be welcome after the pitch
  - Time reserved for changing the pitchers
  - Background music during breaks
  - In case of video stream, the camera range should be marked on the floor so everyone are visible in the picture

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© Wärtsilä

Online forms

- It is good to have some online tool for questionnaires since they can be used for
  - Gathering topic suggestions
  - Participant application form
  - As a tool for judges to record their notes for the presentations
  - Voting
  - Gathering feedback

APPENDIX 6 Hackathon handbook (11-12/13)

CHECKLIST

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Must have

- Project plan
- Organizing team
  - Someone to keep track on communications
  - Someone to keep track on practical arrangements
  - Someone to keep track on technical readiness
  - Someone to keep the whole package together
- Schedule
- Participants

Nice to have

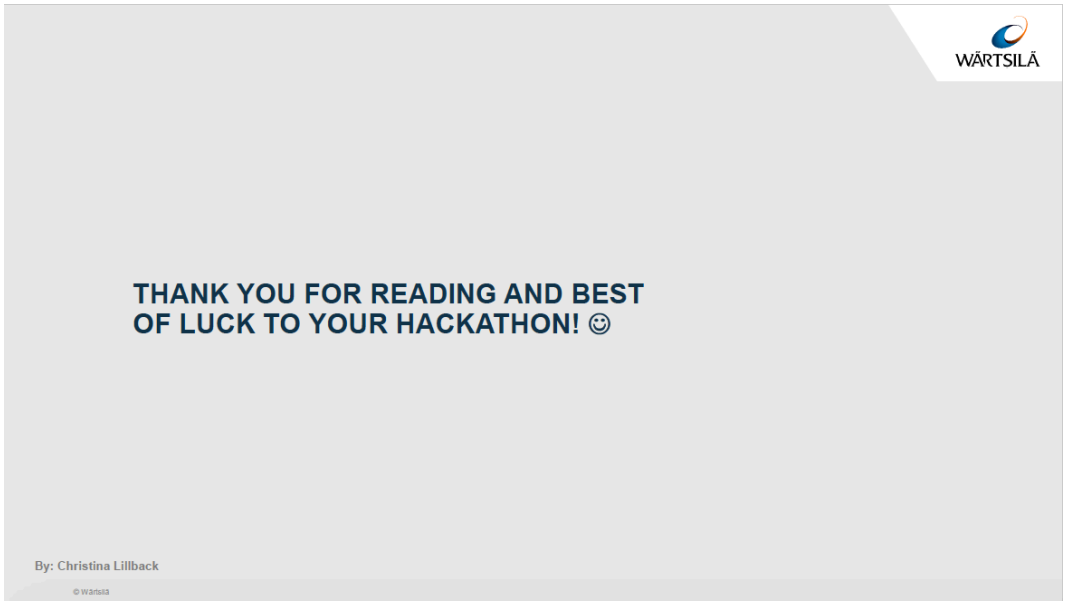
- Communication & Marketing
  - Event logo
  - Banner
  - Dedicated communication channel
  - Live stream/real time updates
- Food and Drinks
- Promotional merchandises
  - Welcome package
  - Info pamphlets
- Activities
  - Sauna
  - Visitor hour
- Selection of winning solution
  - Judges
  - Judgement criteria
  - Voting
  - Prices
- Lessons learned for future improvements

WÄRTSILÄ

Key points

- The lessons learned form SAP Hackathon are as follows
  - Commitment: The team should be involved early and all members should have tasks assigned. Preparing a checklist together helps in this.
  - Visibility: Marketing the event should be done through various channels and persons for best visibility
  - Topics: If topics are chosen with survey or similar it is important to communicate what type of topics are suitable e.g. with regard to a technical platform. Chosen topics should also be on the same level, especially if a winning solution is to be chosen.
  - Technical readiness: The access rights, platform should be ready before the event. Technical capabilities should be communicated clearly.
- The hackathon's main focus should be on finding the solutions with the team whilst having fun.

APPENDIX 6 Hackathon handbook (13/13)



REFERENCES

Abudi G. The Five Stages of Team Development – Every Team Goes Through Them! (Part I), published 15.7.2009, accessed 24.4.2017 https://www.ginaabudi.com/the-five-stages-of-team-development-part-i/

Armerding T. The 17 biggest data breaches of the 21st century, published 26.1.2018, accessed 17.2.2018 https://www.csoonline.com/article/2130877/data-breach/the-biggest-data-breaches-of-the-21st-century.html

Briscoe, G. & Mulligan C. Digital Innovation: The Hackathon Phenomenon 2014, accessed 23.2.18 https://qmro.qmul.ac.uk/xmlui/bitstream/handle/123456789/11418/Briscoe%20Digital%20Innovation:%20The%20Hackathon%20Phenomenon%202014%20Published.pdf?sequence=2

Dyer, W. G. & Dyer, J. H. Team building : proven strategies for improving team performance 2013, accessed 22.3.2017 https://ebookcentral-proquest-com.ezproxy.puv.fi

English Oxford Living Dictionaries, accessed 23.2.2018 https://en.oxforddictionaries.com/definition/hack

Goman A. 2017 Solution Expert, Wärtsilä Corporation. Interview on 31st of November 2017

Google Wärtsilä stock, accessed 10.10.17 https://www.google.fi/search?rlz=1C1GGRV_enFI751FI751&q=w%C3%A4rtsil%C3%A4+stock&oq=w%C3%A4rtsil%C3%A4+stock&gs_l=psy-ab.3..0l2j0i30k1.25012.31162.0.31787.6.6.0.0.0.0.123.564.0j5.5.0....0...1.1.64.psy-ab..1.5.564...38j0i10i30k1j0i13k1j0i13i30k1.0.N25mAzbyr8k

Kauppalehti Wärtsilä Oyj Abp (WRT), accessed 10.10.17 https://www.kauppalehti.fi/en/stocks/market_quotes/security/index.jsp?klid=1059

Lock, D. Naked Project Management : The Bare Facts, Taylor & Francis Group, 2013. ProQuest Ebook Central, accessed 23.3.18 https://ebookcentral-proquest-com.ezproxy.puv.fi/lib/vamklibrary-ebooks/detail.action?docID=1123212

Luckham, D. C. Event Processing for Business : Organizing the Real-Time Enterprise, John Wiley & Sons, Incorporated, 2011, accessed 23.2.2018 http://ebookcentral.proquest.com/lib/vamklibrary-ebooks/detail.action?docID=817448.

Morgan L. List of data breaches and cyber attacks in March 2018, published 28.3.2018, accessed 7.5.2018 https://www.itgovernance.co.uk/blog/list-of-data-breaches-and-cyber-attacks-in-march-2018/

Wärtsilä; About, accessed 2.4.2018 https://www.wartsila.com/about

Wärtsilä Annual Report 2015, accessed 17.10.17 http://www.wartsilareports.com/en-US/2015/ar/investors/shares-and-shareholders/shareholders/

Wärtsilä Annual Report 2017: Investors, accessed 7.5.2018 http://www.wartsilareports.com/en-US/2017/ar/investors/shareholders/

Wärtsilä Corporation Annual Report 2017, accessed 2.4.2018 https://mb.cision.com/Main/15003/2451234/791211.pdf

Wärtsilä Corporation presentation 2017, accessed 10.10.17 https://wartsila.sharepoint.com/sites/compass/Business_Support/Communications_and_Branding/Presentations/_layouts/15/WopiFrame.aspx?sourcedoc=%7b96A1C623-D045-495F-92F1-24C70D39EAAB%7d&file=Corporate%20presentation%202017.pptx&action=default

Wärtsilä; News 10.8.2015, accessed 10.10.17 https://www.wartsila.com/fi/media-fi/uutinen/10-08-2015-w%C3%A4rtsil%C3%A4n-konsernijohtajaksi-jaakko-eskola-1.11.2015

Wärtsilä SharePoint Information Management, accessed 28.9.2017 https://wartsila.sharepoint.com/sites/compass/BUSINESS_SUPPORT/INFORMATION_MANAGEMENT/Pages/Default.aspx

Wärtsilä SharePoint: SAP Hackathon Piece of Cloud Teaser 2017, accessed 28.3.2018 https://wartsila.sharepoint.com/portals/hub/_layouts/15/PointPublishing.aspx?app=video&p=p&chid=a5d4a0f0-f57b-4570-b83f-fb893d81919a&vid=0727ca87-91d6-4b2f-98b1-35d68360737c&from=1

Wärtsilä Solutions for Marine and Oil & Gas Markets 2018, accessed 8.5.2018 https://cdn.wartsila.com/docs/default-source/marine-documents/segment/brochure-marine-solutions-2017.pdf?sfvrsn=658adc45_30

Wärtsilä; The Wärtsilä Brand, accessed 25.3.2018 https://www.wartsila.com/about/strategy/brand

Yeoman I., Robertson M., Ali-Knight J., Drummond S. & McMahon-Beattie Festival and Events Management : An International Arts and Culture Perspective 2009, accessed 23.4.2018 http://ebookcentral.proquest.com/lib/vamklibrary-ebooks/detail.action?docID=294126.